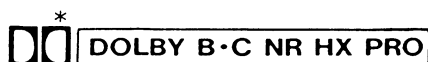


# Service Manual

Dolby NR-Equipped  
Stereo Cassette Deck

Cassette Deck  
**RS-B755**



Color

(K)... Black Type

## Area

Country Code	Area	Color
(P)	U.S.A.	(K)
(PC)	Canada.	
(E, E5)	Continental Europe.	
(EB)	Great Britain.	
(EG)	F.R. Germany and Italy	



\* HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation.  
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## MECHANISM SERIES: AR350

## SPECIFICATIONS

### CASSETTE DECK SECTION

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Heads	
Record	Permalloy (Combination)
Playback	Permalloy (Combination)
Erasure	Double-gap ferrite
Motors	
Capstan drive	Quartz DD motor
Reel table drive	DC motor
Cassette holder open/close	DC motor
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase
Tape speed	4.8 cm/sec. (1 7/8 ips)
Frequency response	
NORMAL	20 Hz~19 kHz
	20 Hz~18 kHz (DIN)
CrO <sub>2</sub>	20 Hz~20 kHz
	20 Hz~19 kHz (DIN)
METAL	20 Hz~21 kHz
	20 Hz~20 kHz (DIN)
S/N (signal level=max recording level, CrO <sub>2</sub> type tape)	
Dolby C NR on	74 dB (CCIR)
Dolby B NR on	66 dB (CCIR)
Dolby NR off	57 dB (A weighted)

Wow and flutter 0.05% (WRMS)  
±0.14% (DIN)

Fast forward and rewind times  
Approx. 90 seconds with C-60 cassette tape

Input sensitivity and impedance  
LINE 60 mV/47 kΩ

Output voltage and impedance  
LINE 400 mV/800Ω  
HEADPHONES 125 mV/8Ω  
(8Ω~600Ω)

### GENERAL

Power consumption 21 W

Power supply

For U.S.A. and Canada AC 120V, 60 Hz

For Great Britain AC 240V, 50/60 Hz

For others AC 220V, 50/60 Hz

Dimensions (W×H×D) 430×135×290 mm  
(16 15/16"×5 1/8"×11 13/32")

Weight 5.3 kg (11.7 lb.)

### Note:

Specifications are subject to change without notice.

Weight and dimensions are approximate.

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# Technics

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※ TECHNICAL INFORMATION	
※ This technical information is located on pp 45-51 of the RS-B555 Service Manual (Order No. AD8907231C5). Therefore, refer to that Service Manual.	

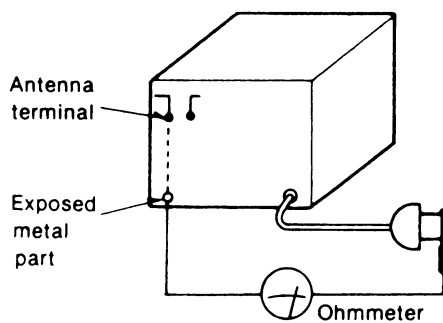
## SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

### INSULATION RESISTANCE TEST

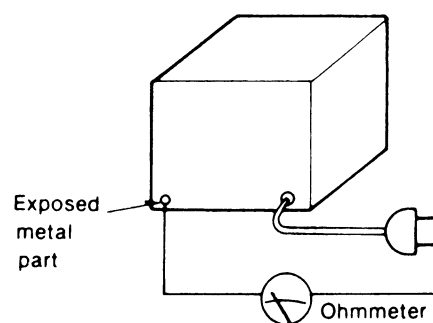
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between  $3M\Omega$  and  $5.2M\Omega$  to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

**Note:** Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance =  $3M\Omega$ — $5.2M\Omega$



(Fig. B)

Resistance = Approx  $\infty$

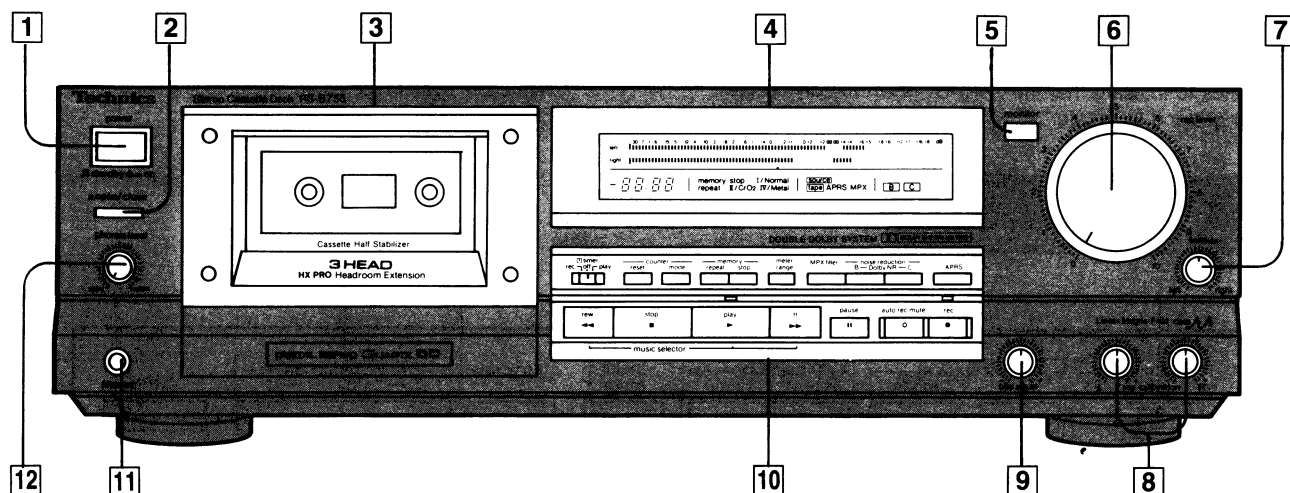
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

## ACCESSORIES

• Stereo connection cables ..... 2  
[SJP2249-3]

• AC power supply cord ..... 1  
[ SFDAC05E03: (E, E5, EG)  
SJA172: (PC)  
SJA172-1: (P)  
SJA193-1: (EB) ]

## FRONT PANEL CONTROLS AND FUNCTIONS



### 1 Power “standby ⏻ /on” switch (power “standby ⏻ /on”)

This switch switches ON and OFF the secondary circuit power only. The unit is in the “standby” condition when this switch is set to the “standby ⏻” position. Regardless of the switch setting, the primary circuit is always “live” as long as the power cord is connected to an electrical outlet.

### 2 Open/close button (▲ open/close)

This button can be used to open or close the cassette holder.

### 3 Cassette holder

### 4 Display section

### 5 Monitor switch (monitor)

In order to monitor the tape (check the recording condition), the sound on the tape (immediately after recording) and the sound of the sound source (the original sound, before recording) can be alternately selected by pressing this button. (The corresponding indicator will illuminate.)

### 6 Recording-level control (rec level)

This control can be used to regulate the recording level and the peak level.

### 7 Recording-balance control (balance)

This control can be used to balance the left and right sound levels during recording.

### 8 Recording-calibration adjustment controls (rec calibration)

The sensitivity differences (high or low recording levels) for each tape type can be corrected by using these controls.

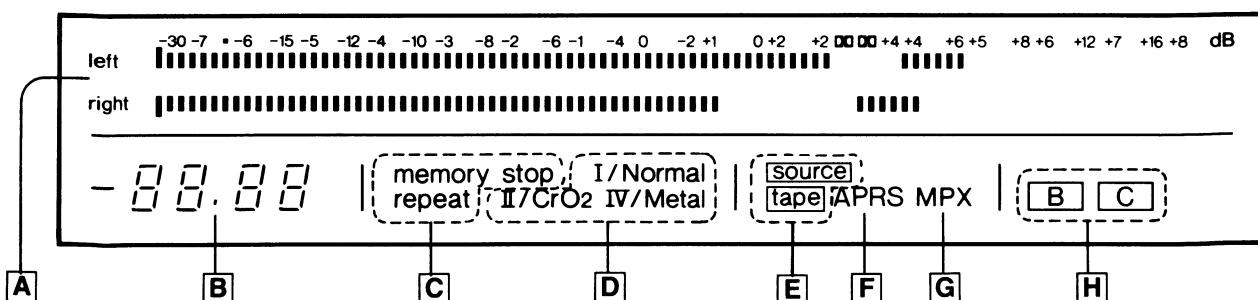
### 9 Bias-adjustment control (bias adjust)

The frequency response for each tape type can be equalized by using this control.

### 10 Operation section

### 11 Headphones jack (phones)

### 12 Headphones volume control (phones level)



### A Input level meter

During playback, this meter indicates the level of the recorded sound. During recording, it indicates the level being recorded, adjusted by the recording-level control.

### B Tape/Linear counter

Indicates the amount of tape movement or elapsed time.

### C Memory-mode indicators (memory repeat/stop)

Each indicator illuminates to show which of the memory mode was set by the memory-mode buttons.

### D Tape-select indicators

The type of tape being used will be automatically detected and the indicator will illuminate.

**E Monitor indicators (source/tape)**

Each indicator illuminates to show which of the monitor was set by the monitor switch.

**F APRS indicator (APRS)**

Illuminates to indicate that the "APRS" is set to "on" in the recording stand-by mode.

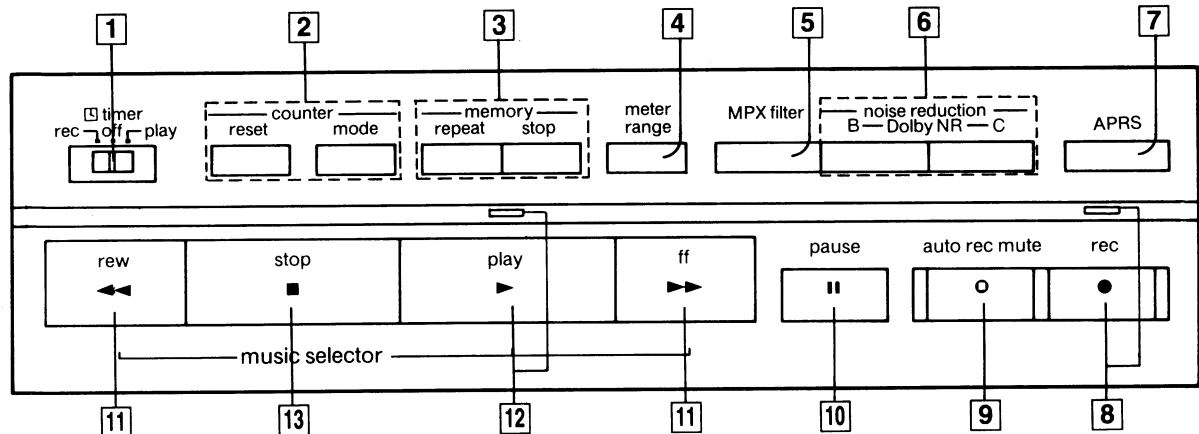
**G Multiplex filter indicator (MPX)**

Illuminates to indicate that the multiplex filter is set to "on".

**H Dolby noise-reduction indicators (B, C)**

Each indicator illuminates to show the type of Dolby noise-reduction system selected by pressing one of the Dolby noise-reduction buttons.

## Operation section

**1 Timer switch (timer)**

This switch is used to automatically begin a tape recording or tape playback at a certain time, selected by a timer (not included).

**2 Counter buttons (counter reset/mode)**

**reset:** This button can be used to reset the tape/linear counter indication to "000 \_"/"00.00".

**mode:** This button can be used to select the tape/linear counter indication.

**3 Memory-mode buttons (memory repeat/stop)**

**repeat:** This button can be used to set this unit to the "A-B repeat" mode.  
(Refer to page 7.)

**stop:** This button can be used to rewind the tape to the preset "0000" point when the rewind (◀◀) button is pressed. (Refer to pages 7.)

**4 Meter-range selector (meter range)**

This selector can be used to select the meter-range display of the input level meter.

**5 Multiplex filter switch (MPX filter)**

This switch can be used during the recording of an FM stereo broadcast that employs Dolby noise reduction so as to prevent misoperation of the Dolby noise reduction.  
(Refer to page 5.)

**6 Dolby noise-reduction buttons (noise reduction)**

These buttons are used to reduce the hissing noise heard from the tape. This unit is provided with both the B-type and C-type noise-reduction systems.

**7 APRS button (APRS)**

This button can be used to hold the peak level while monitoring the input sound. (Refer to page 6.)

**8 Record button and indicator (rec/●)**

This button can be used to change the tape deck to the recording stand-by mode.

This indicator illuminates to indicate that this tape deck is in the recording stand-by mode, or is recording.

**9 Automatic-record-muting button (auto rec mute/○)**

This button can be used to make a silent interval on the tape being recorded on tape deck.

**10 Pause button (pause/II)**

This button can be used to temporarily stop the tape playback or recording of tape deck.

**11 Rewind/fast-forward/search buttons (rew/◀◀, ff/▶▶)**

These buttons can be used to fast forward or rewind the tape, or to easily search for the tune's beginning of the tape quickly.

**12 Playback button and indicator (play/►)**

This button can be used to start the playback or recording of the cassette.

(The tape will then begin moving in the left-to-right direction.)

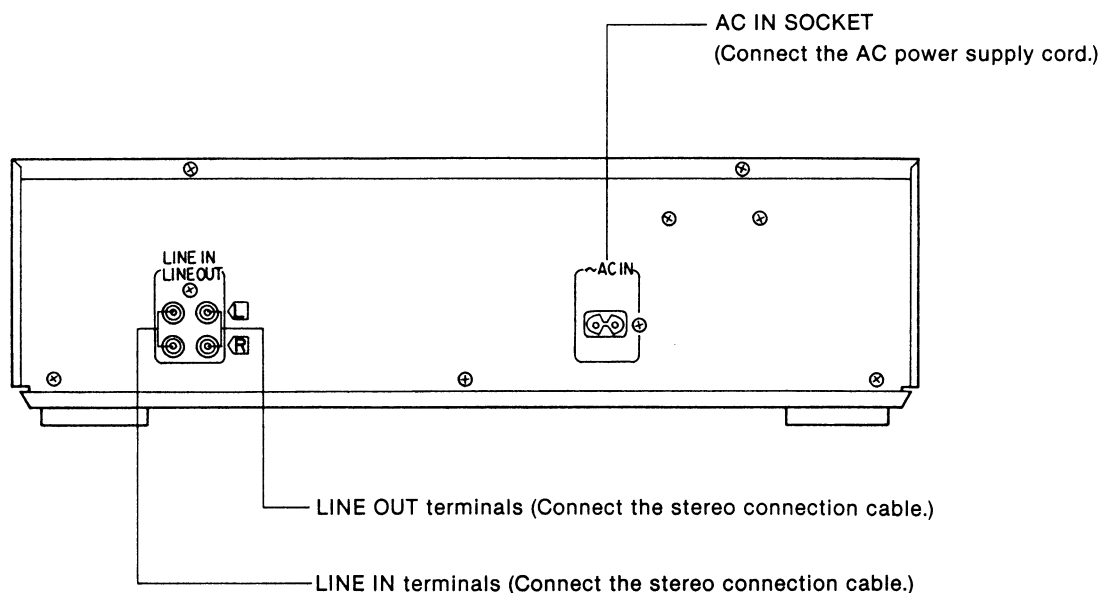
When this indicator illuminates steadily, it indicates that this tape deck is in the playback mode or the recording mode. When it flashes continually, this is an indication that this tape deck is in the pause mode or the recording stand-by mode.

**13 Stop button (stop/■)**

This button can be used to stop tape movement.



## CONNECTIONS

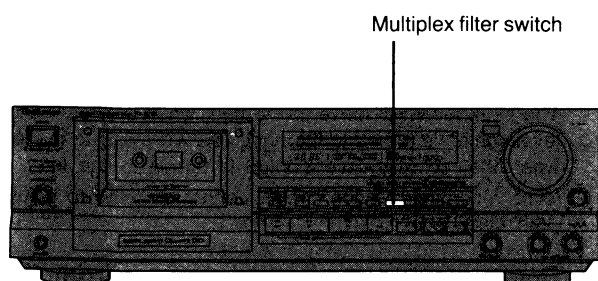


## RECORDING WITH HIGH TONE QUALITY

### MPX filter

Because the pilot signals\*, etc. included with FM stereo broadcast signals are subjected to Dolby noise-reduction processing in the same way as the music signals when an FM stereo broadcast is being recorded, there is apt to be deterioration of the tone quality, and the noise-reduction effect is reduced.

This unit, however, is provided with an MPX filter that filters out the 19 kHz frequency, which is the frequency of the pilot signal. Note that there is virtually no audible effect upon the tone quality as a result of the use of the MPX filter.



This switch can be used during the recording of an FM stereo broadcast that employs Dolby noise reduction so as to prevent misoperation of the Dolby noise reduction. This switch, however, should be switched OFF when a sound source other than the FM broadcast is being recorded, such as, for example, a sound source that has a wide frequency range, such as a compact disc, etc.

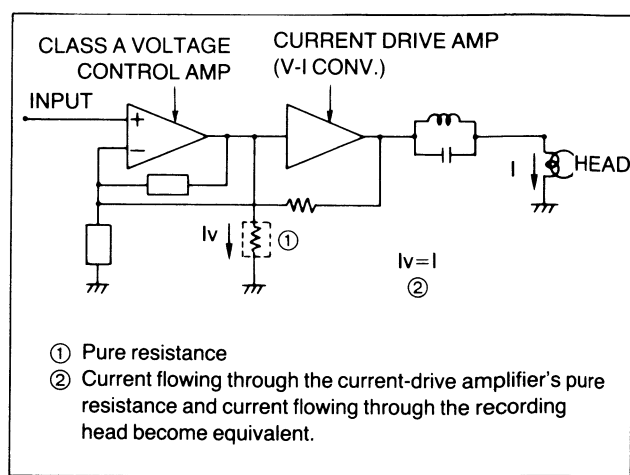
#### \*Pilot signal

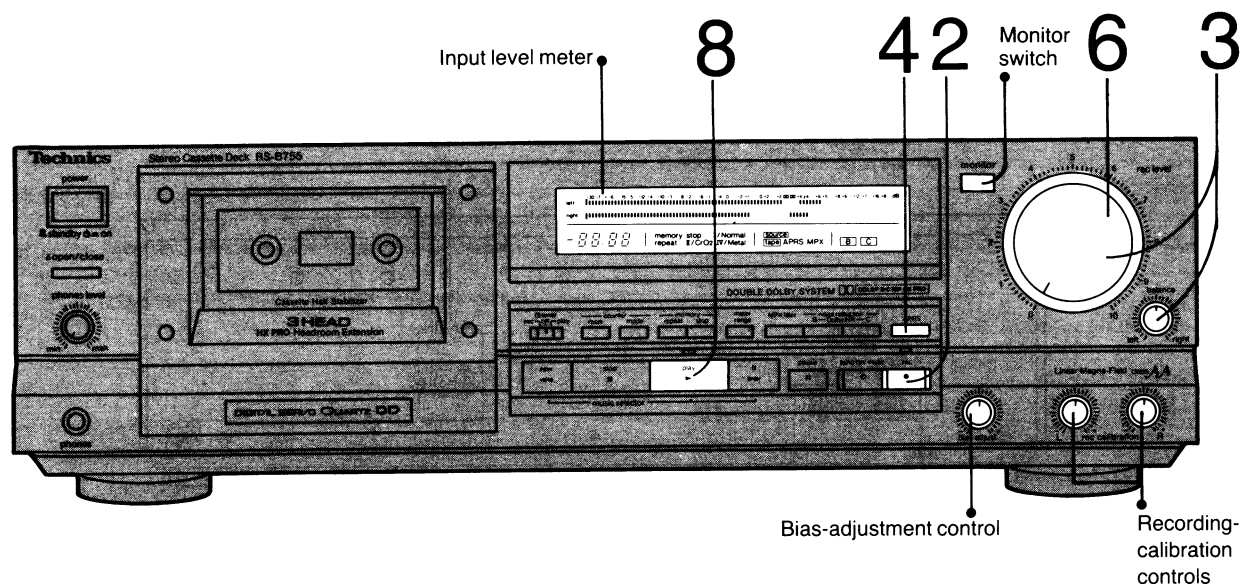
The pilot signal is a signal that is used to separate FM broadcast signals in stereo (left and right channels); this signal is generated on a frequency that is very close to the 19 kHz music band.

### Linear Magne-Field class AA

The recording-equalizer amplifier is an amplifier for supplying (to the head) the current necessary for recording. Usually, loads such as the recording head and bias trap circuitry (circuitry for control of the bias current) would be applied to the output of this amplifier, with the result that complex changes of the current phase occur, causing distortion of the recording signal.

The recording-equalizer amplifier used in this unit, however, is a linear magne-field class AA amplifier that is a combination of class A voltage-control amplifier circuitry and current-drive amplifier circuitry. (See the figure below.) As a result, a current flow that is equivalent to the current flowing in the pure resistance of the current-drive amplifier can be supplied to the recording head. Consequently, a magnetic field that corresponds to the input signals is produced at the head and is recorded on the tape, which means that recorded sounds are faithful to the original sound source, without fluctuations of the current phase.





## APRS function

Because the dynamic range of cassette tape is narrower than the dynamic range of a digital source, the recording will be too noisy if the recording level setting is too low, and, conversely, the recorded sound will be distorted if the setting is too high.

It was for this reason that it has always been recommended that the signals to be recorded be first (before recording) input to the cassette deck and the recording level then be set while watching the level meter, but, for former conventional level meter equipped with the peak-hold function, it was necessary to re-adjust and input the signals again if the level setting was too high or too low.

This unit, however, is equipped with the **APRS: Advanced Precise Recording-level System**, which holds and displays the maximum peak of the input signal level, so that once the peak level of the source is held, there is no necessity to re-input the source signals, and the optimum recording level can be set.

•The APRS function can be used only during the recording-standby mode.

**1** Prepare for recording as described in steps 1 to 6 of the "Recording" section.

**2** **rec**

**Press the record button.**

(The recording indicator will illuminate and the playback indicator will flash continuously; the unit will be in the recording stand-by mode.)

**3** **rec level** / **balance**

**Set the recording-level control and the recording-balance control to the suitable position for the sound source.**

**4** **APRS**

**Press the APRS button.**

(The APRS indicator will illuminate.)

**5** Play the sound source to be recorded, from beginning to end.

[The peak level (the highest level of the input signal) of the sound source will be displayed and held on the input-level meter.]

Input level meter



Peak level

### Note:

The range within which the peak level can be held is  $-8\text{ dB}$  to  $+16\text{ dB}$ . Note that the APRS indicator will flash continuously if the peak level of the sound source is input at a level that exceeds the maximum recording level ( $+16\text{ dB}$ ).

If that happens, press the APRS button to cancel the APRS function, and then reset the recording level and set the APRS once again.

**6** **rec level**

**Using the recording-level control, adjust the peak level to the desired setting.**

The peak level will move to the right when the recording-level control is turned to the right, and will move to the left when the recording-level control is turned to the left.

•The recording-balance control cannot be used to adjust the peak level.

**7** Begin playing the sound source from the beginning once again.

**8** **play**

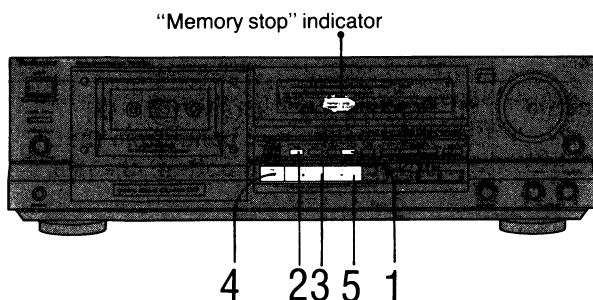
**Press the playback button.**

(The playback indicator will illuminate steadily, and the recording will begin.)

The APRS indicator will switch OFF, and the indication of the input-level meter will return to the ordinary peak-hold mode.

## Playback after “memory stop”

The tape is rewound to the designated point and then play can be begun from that point.



### To set the playback start point

- 1 Press the memory-stop button and then begin the playback.  
(The memory-stop indicator will illuminate.)
- 2 Press the counter-reset button at the place to which you want the tape to rewind.  
(The counter will be reset to “0000”.)

### To begin playback from the set point

- 3 Press the stop button.
  - 4 Press the rewind (◀◀) button.  
The tape will be rewound to the set point, and then will be automatically stopped.
  - 5 Press the playback button to begin the playback once again.
- To cancel the “memory stop” function, press the memory stop button once again.  
(The memory stop indicator will be switched OFF.)

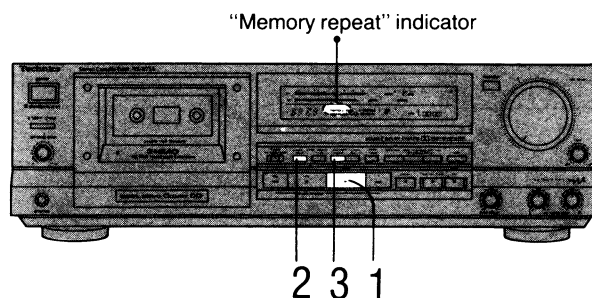
#### Notes:

- The “memory stop” function can be used while either the tape counter or the linear counter is displayed, but a change from one to the other cannot be made during the “memory stop” mode.
- There may be a slight difference (maximum +4 seconds) between the point where the tape counter was reset and the point where the tape actually stops during rewind.

## A ↔ B repeat play (“memory repeat”)

By simply designating the beginning (“0000”) and the end of the part that you want to play repeatedly, that part can be repeatedly played for as many as 16 times.

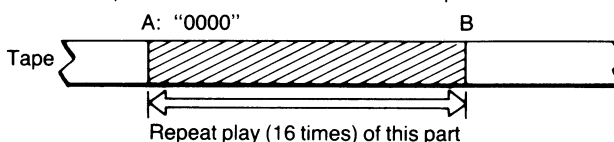
(This repeat-play feature can be used only in the playback mode.)



- 1 Press the playback button.  
(The playback indicator will illuminate, and playback will begin.)
- 2 Press the counter-reset button at the place (A) where you want the repeat play to start.  
(The counter will be reset to “0000”.)
- 3 Press the memory-repeat button at the place (B) where you want the repeat play to end.  
(The memory-repeat indicator will illuminate.)  
When the memory-repeat button is pressed, the tape will be rewound to point (A), and the repeat play will then begin.

Place where counter-reset button was pressed

Place where memory-repeat button was pressed

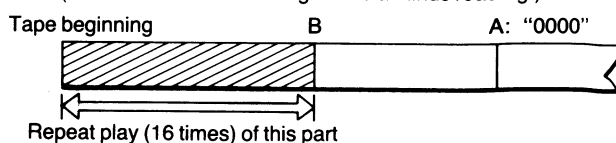


- To cancel the repeat-play function before it stops (after 16 repeats), press the memory-repeat button.  
(The memory-repeat indicator will switch OFF.)
- To change the setting of point (B), first cancel the repeat-play operation (see above), and then press the memory-repeat button at the new place.

#### Notes:

- The repeat-play function will be cancelled if the stop button or the rewind/fast-forward/search button is pressed during repeat play. To stop temporarily, press the pause button.
- Repeat play is possible while either the tape counter or the linear counter is displayed, but a change from one to the other cannot be made while repeat play is in progress.
- If, after setting point (A), the tape is rewound to set point (B), the repeat play will be of the part between the tape beginning and point (B).

(The linear counter reading will be a minus reading.)

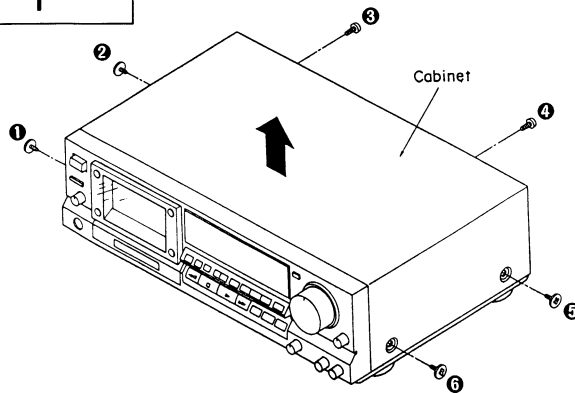
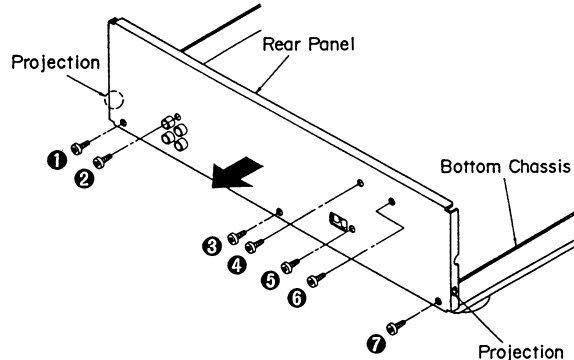
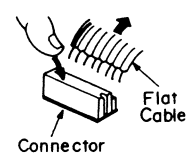
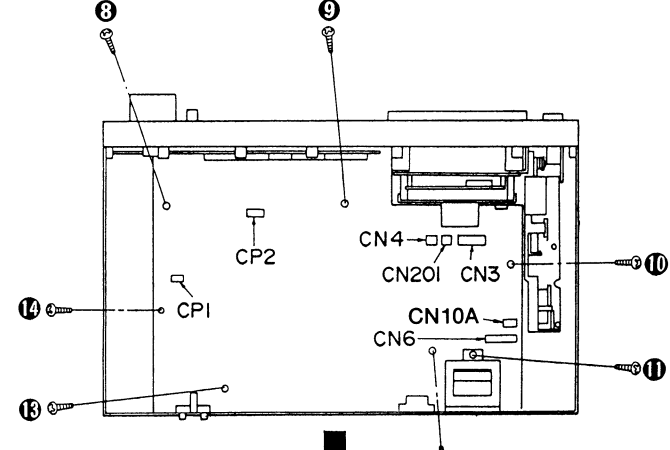
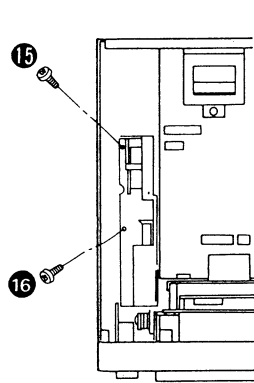
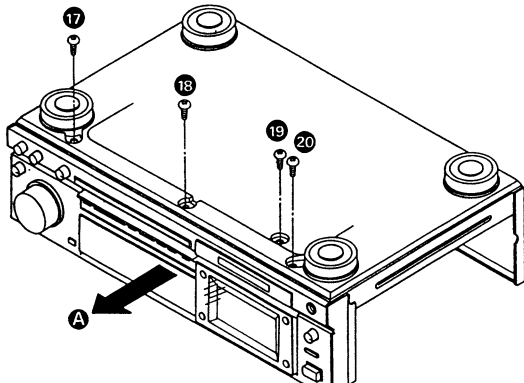


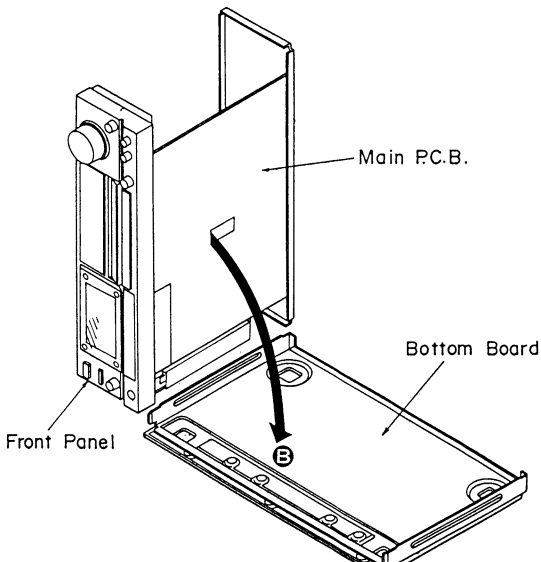


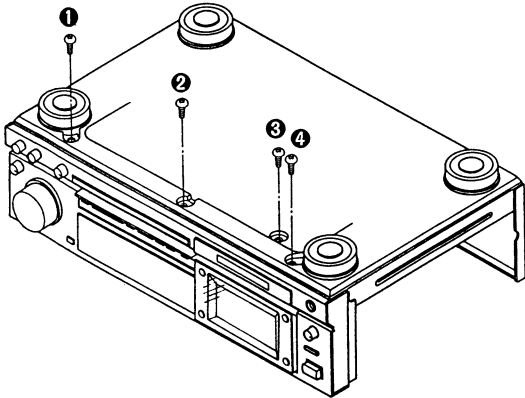
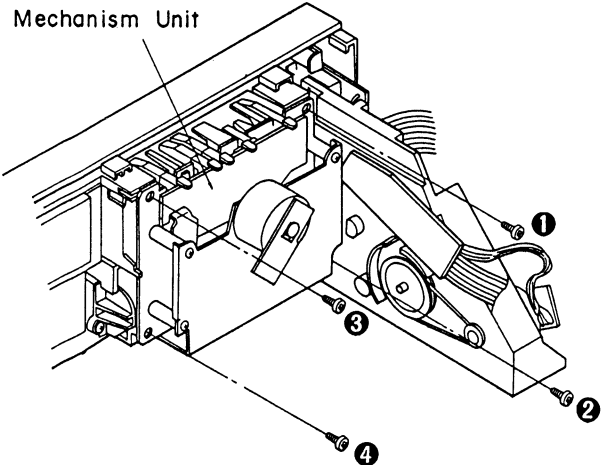
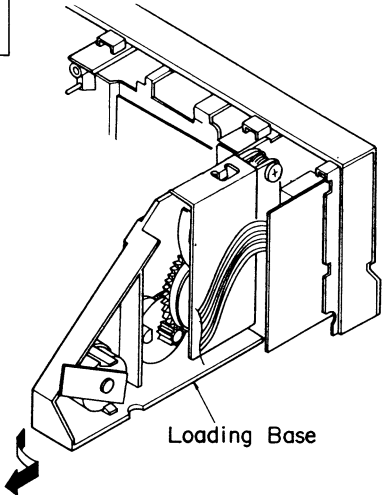
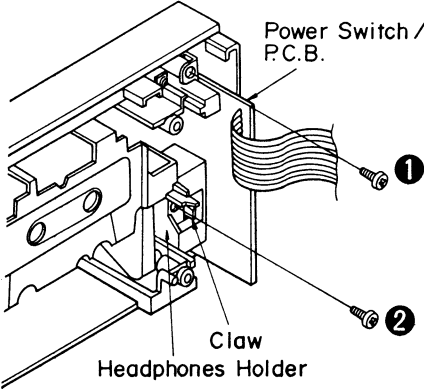
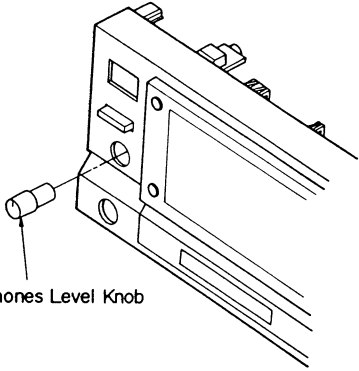
- There may be a slight difference (maximum  $\pm 4$  seconds) between the settings made for points (A) and (B) and the points at which the tape is actually played during repeat play.

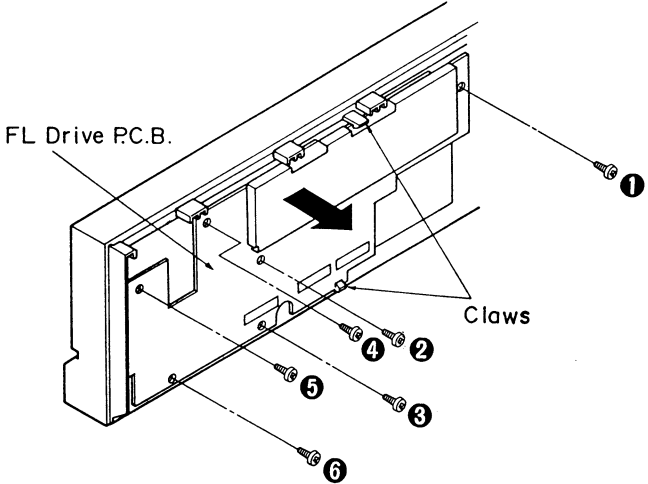
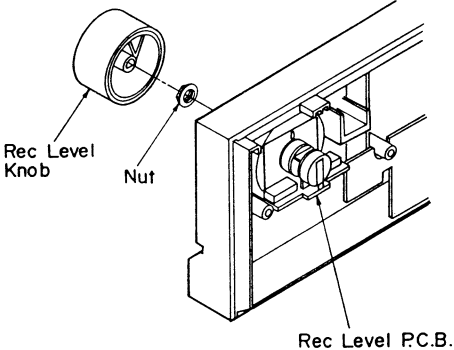
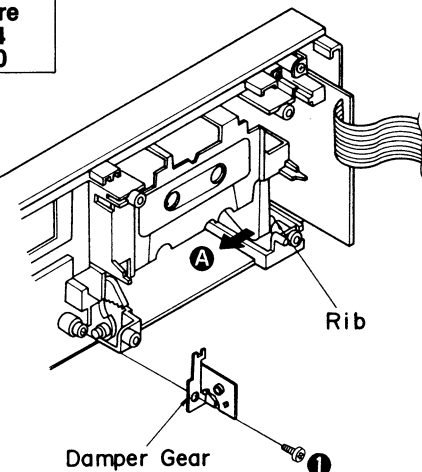
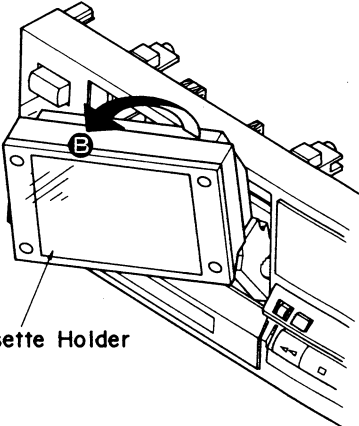
# DISASSEMBLY INSTRUCTIONS

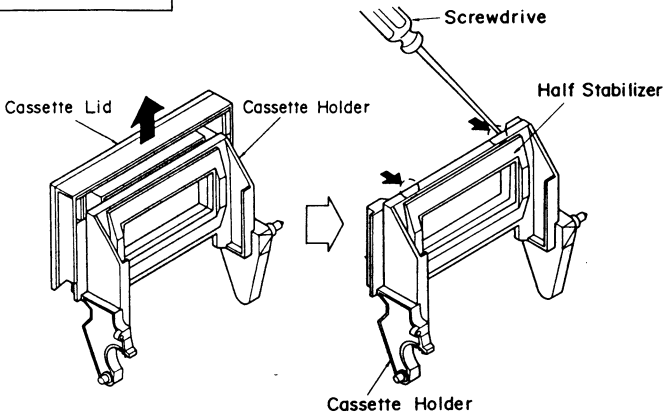
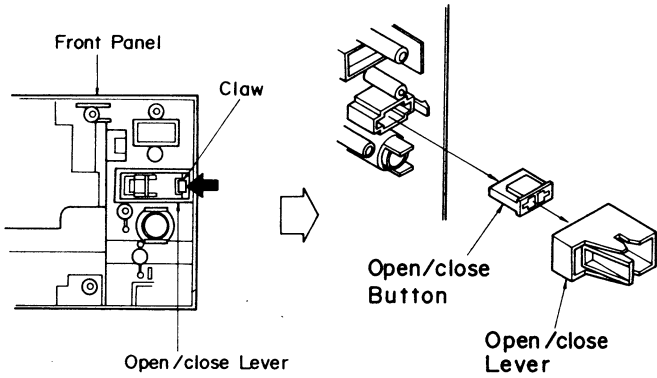
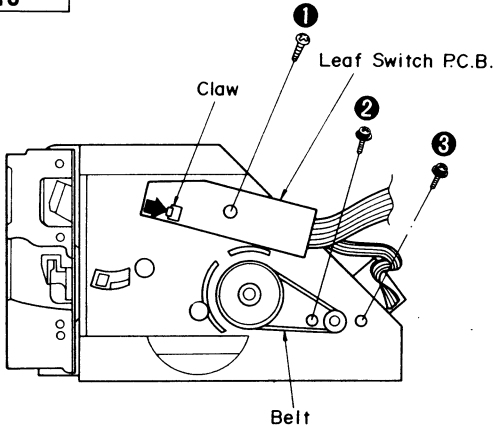
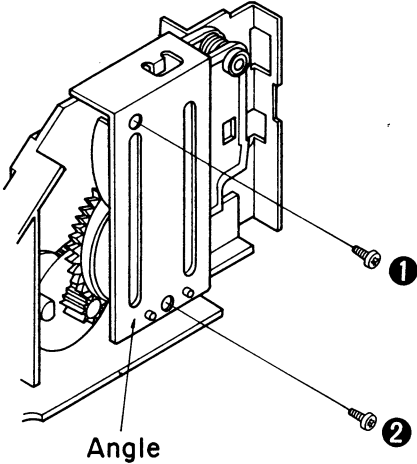
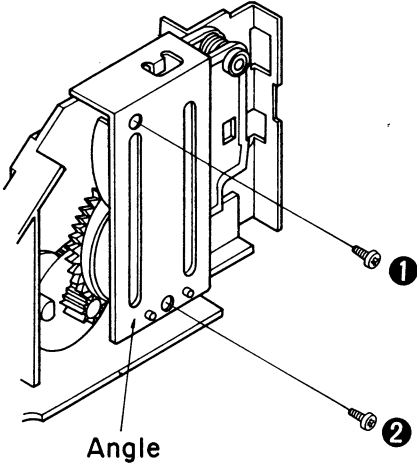
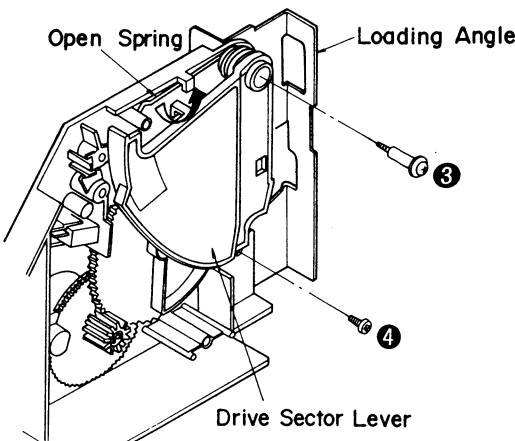
## “ATTENTION SERVICER”

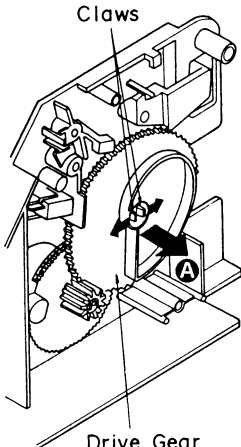
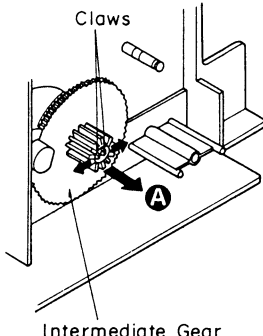
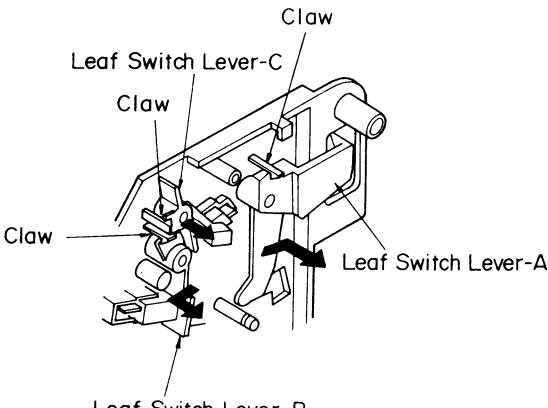
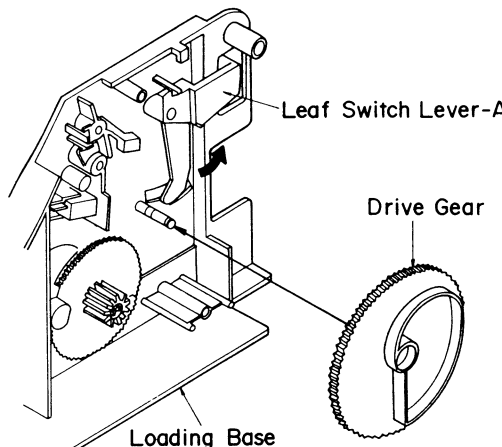
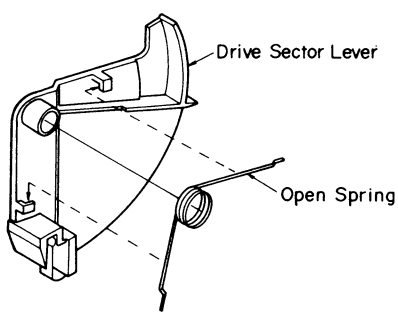
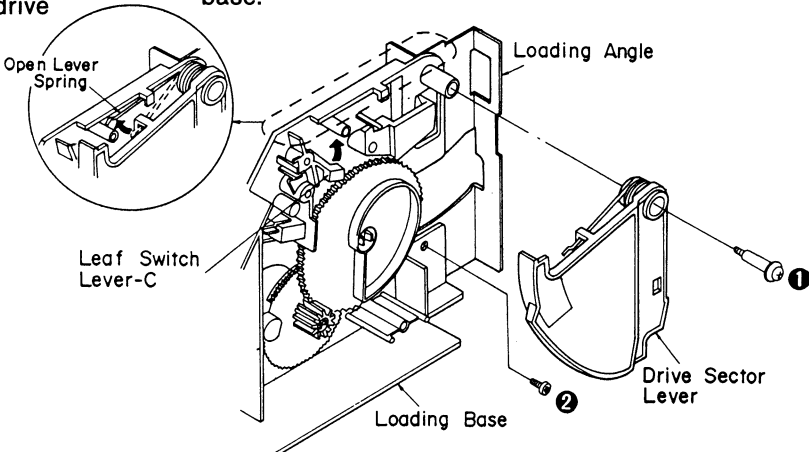
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

Ref. No. 1	Removal of the cabinet	Ref. No. 2	Removal of the main P.C.B.
Procedure 1	 <p>• Remove the 6 screws (①～⑥).</p>	Procedure 1→2	<p>1. Remove the 7 screws (①～⑦). 2. Remove the rear panel from the projection of the bottom chassis.</p> 
	<p>3. Remove the 7 screws (⑧～⑭). 4. Remove the 2 connectors (CP1, CP2). 5. Remove the 5 flat cables (CN3, CN4, CN6, CN10A, CN201). 6. Remove the main P.C.B. in the direction of the arrow.</p> <p><b>How to remove the flat cable</b></p> <p>• Pull out the flat cable while pressing the connector.</p> 		
	<p><b>How to check the main P.C.B.</b></p> <p>• When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show.</p> <p>1. Remove the 10 screws (①, ③, ⑦～⑭) in above figure. 2. Remove the 6 screws (⑮～⑳). 3. Remove the front panel in the direction of the arrow ④.</p>   		<p>4. Remove the bottom board in the direction of the arrow ③. 5. Reinstall the front panel to the main P.C.B.</p>  

<b>Ref. No.</b> 3	<b>Removal of the front panel</b>  <b>Procedure</b> 1→3	<ol style="list-style-type: none"> <li>Remove the 2 connectors (CP1, CP2).</li> <li>Remove the 5 flat cables (CN3, CN4, CN6, CN10A, CN201).</li> <li>Remove the front panel in the direction of the arrow.</li> </ol> 	
<b>Ref. No.</b> 4	<b>Removal of the mechanism unit</b>  <b>Procedure</b> 1→3→4	<b>Ref. No.</b> 5	<b>Removal of the loading base</b>  <b>Procedure</b> 1→3→4→5
 <p>• Remove the 4 screws (① ~ ④).</p>		 <p>• Remove the loading base in the direction of the arrow.</p>	
<b>Ref. No.</b> 6	<b>Removal of the power switch/ headphones P.C.B.</b>  <b>Procedure</b> 1→3→4→5→6	 <ol style="list-style-type: none"> <li>Remove the 2 screws (①, ②).</li> <li>Release the 1 claw.</li> <li>Remove the headphones holder.</li> </ol>	
 <p>1. Pull out the headphones level knob.</p>			

<b>Ref. No.</b> 7  <b>Procedure</b> 1→3→7	<b>Removal of the FL Drive P.C.B.</b>	 <p>FL Drive P.C.B.</p> <p>Claws</p> <ol style="list-style-type: none"> <li>1. Pull out the 4 knobs.</li> <li>2. Remove the 6 screws (①～⑥).</li> <li>3. Release the 2 claws.</li> <li>4. Remove the FL P.C.B. in the direction of the arrow.</li> </ol>
<b>Ref. No.</b> 8  <b>Procedure</b> 1→3→7→8	<b>Removal of the rec level P.C.B.</b>	 <p>Rec Level Knob</p> <p>Nut</p> <p>Rec Level P.C.B.</p> <ol style="list-style-type: none"> <li>1. Pull out the rec level knob.</li> <li>2. Remove the 1 nut.</li> </ol>
<b>Ref. No.</b> 10  <b>Procedure</b> 1→3→4 →5→10	<b>Removal of the cassette holder</b>	 <p>Rib</p> <p>Damper Gear</p>  <p>Cassette Holder</p> <ol style="list-style-type: none"> <li>1. Remove the 1 screw (①).</li> <li>2. Remove the damper gear.</li> <li>3. Remove the rib in the direction of the arrow ㊦.</li> <li>4. Remove the cassette holder in the direction of the arrow ㊧.</li> </ol>

<b>Ref. No.</b> 11  <b>Procedure</b> 10→11	<b>Removal of the cassette cover and cassette half stabilizer</b>	<b>Ref. No.</b> 12  <b>Procedure</b> 5→6→12	<b>Removal of the open/close lever and open/close button</b>
	 <p>Screwdriver</p> <p>Cassette Lid</p> <p>Cassette Holder</p> <p>Half Stabilizer</p> <p>Cassette Holder</p>		 <p>Front Panel</p> <p>Claw</p> <p>Open/close Lever</p> <p>Open/close Button</p> <p>Open/close Lever</p>
<b>Ref. No.</b> 13  <b>Procedure</b> 1→3→4 →5→13	<b>Removal of the leaf switch P.C.B. and eject drive motor</b>	<div data-bbox="885 813 1353 846"> <b>■ Removal of the leaf switch P.C.B.</b> </div> <div data-bbox="885 848 1217 907">           1. Remove the 1 screw (❶).            2. Release the 1 claw.         </div> <div data-bbox="885 927 1353 960"> <b>■ Removal of the eject drive motor</b> </div> <div data-bbox="885 963 1272 1050">           1. Remove the belt.            2. Remove the 2 screws (❷, ❸).            3. Release the 2 claw.         </div>  <p>❶</p> <p>Claw</p> <p>Leaf Switch P.C.B.</p> <p>❷</p> <p>❸</p> <p>Belt</p> <p>Claws</p> <p>Eject Drive Motor</p>	
<b>Ref. No.</b> 14  <b>Procedure</b> 1→3→4→14	<b>Removal of the drive sector lever and loading angle</b>	<div data-bbox="885 1458 1492 1576">           3. Remove the 2 screws (❸, ❹).            4. Remove the loading angle.            5. Remove the open lever spring in the direction of the arrow.         </div>  <p>❶</p> <p>❷</p> <p>Angle</p>	
	 <p>❶</p> <p>❷</p> <p>Angle</p>	 <p>Open Spring</p> <p>Loading Angle</p> <p>❸</p> <p>❹</p> <p>Drive Sector Lever</p>	

Ref. No. 15	Removal of the drive gear	Ref. No. 16	Removal of the intermediate gear, leaf switch lever-A, leaf switch lever-B, and leaf switch lever-C
Procedure 14→15	 <p>Claws</p> <p>Drive Gear</p> <ol style="list-style-type: none"><li>1. Release the 2 claws.</li><li>2. Remove the drive gear in the direction of the arrow <b>A</b>.</li></ol>	Procedure 14→15→16	<p>■ <b>Removal of the intermediate gear</b></p> <ol style="list-style-type: none"><li>1. Release the 2 claws.</li><li>2. Remove the intermediate gear in the direction of the arrow <b>A</b>.</li></ol>  <p>Claws</p> <p>Intermediate Gear</p> <p>■ <b>Removal of the leaf switch lever-A</b></p> <ul style="list-style-type: none"><li>• Release the 1 claw.</li></ul> <p>■ <b>Removal of the leaf switch lever-B</b></p> <ul style="list-style-type: none"><li>• Release the 1 claw.</li></ul> <p>■ <b>Removal of the leaf switch lever-C</b></p> <ul style="list-style-type: none"><li>• Release the 1 claw.</li></ul>  <p>Claw</p> <p>Leaf Switch Lever-C</p> <p>Claw</p> <p>Claw</p> <p>Leaf Switch Lever-A</p> <p>Leaf Switch Lever-B</p>
Ref. No. 17	Installation of the Drive Gear and the Drive Sector Lever		
Procedure 17	<p>■ <b>Installation of the Drive Gear</b></p> <ol style="list-style-type: none"><li>1. Push the leaf switch lever A in the direction of the arrow.</li><li>2. Place the drive gear as shown below and then install it in the loading base.</li></ol>  <p>Leaf Switch Lever-A</p> <p>Drive Gear</p> <p>Loading Base</p> <p>■ <b>Installation of the Drive Sector Lever</b></p> <ol style="list-style-type: none"><li>1. Temporarily install the open spring in the drive sector lever.</li></ol>  <p>Drive Sector Lever</p> <p>Open Spring</p>	<ol style="list-style-type: none"><li>2. Install the loading angle in the loading base and then secure it with the 1 screw ②.</li><li>3. Push the leaf switch lever C in the direction of the arrow.</li><li>4. Secure the drive sector lever with 1 screw ①.</li><li>5. Engage the open spring in the claw of the loading base.</li></ol>  <p>Open Lever Spring</p> <p>Leaf Switch Lever-C</p> <p>Loading Angle</p> <p>Loading Base</p> <p>Drive Sector Lever</p> <p>①</p> <p>②</p>	



## MEASUREMENT AND ADJUSTMENT METHODES

### Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- MPX filter switch: off
- Bias-adjustment VR: Center
- Rec. balance control; Center

- Rec. calibration adjustment; Center
- Dolby NR switch; Off
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature  $20 \pm 5^{\circ}\text{C}$  ( $68 \pm 9^{\circ}\text{F}$ )

### Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator

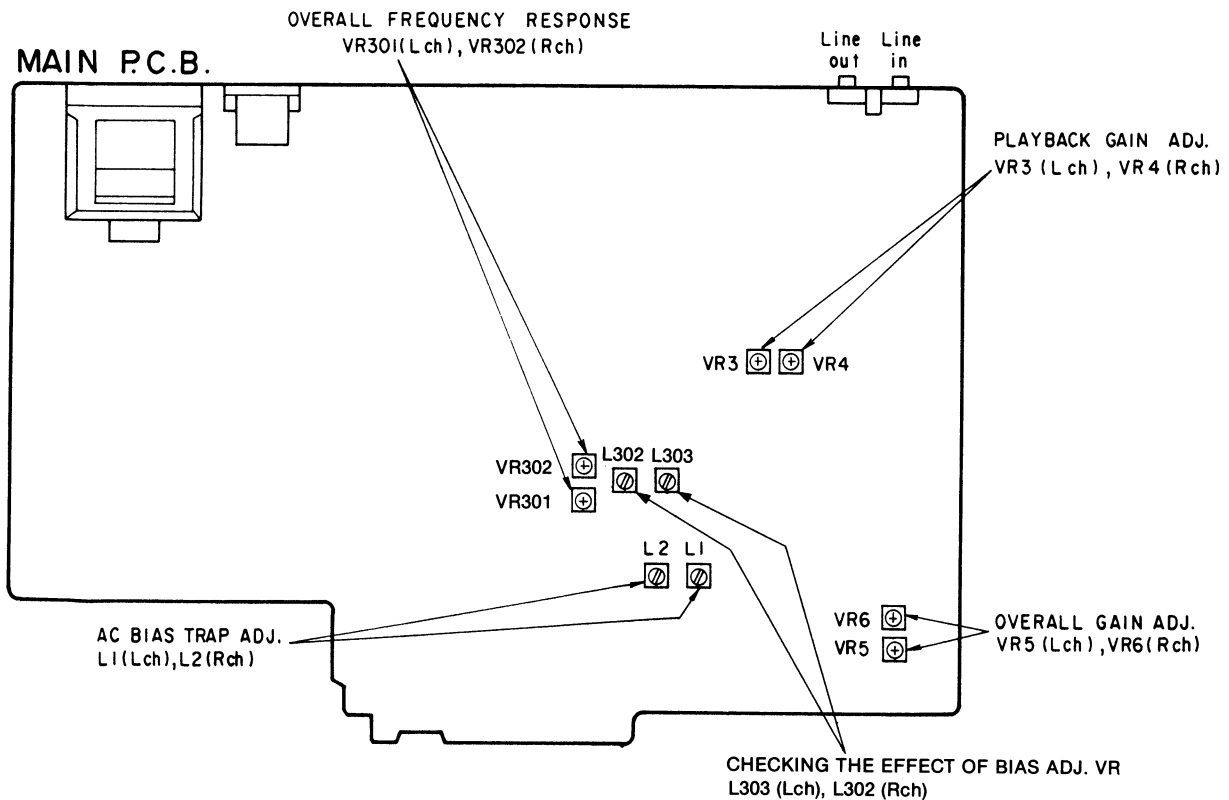
- ATT (Attenuator)
- DC voltmeter
- Resistor ( $600\Omega$ )

### Test tape

- Head azimuth adjustment (8kHz,  $-20\text{dB}$ ); QZZCFM
- Tape speed adjustment (3kHz,  $-10\text{dB}$ ); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz,  $-20\text{dB}$ ); QZZCFM

- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment  
Normal reference blank tape ; QZZCRA  
CrO<sub>2</sub> reference blank tape; QZZCRX  
Metal reference blank tape; QZZCRZ

### Adjustment Points



### HEAD AZIMUTH ADJUSTMENT

1. Playback the azimuth adjustment portion (8 kHz, -20 dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-CH and R-CH are maximized and the lissajous waveform, as illustrated, approaches 0 degrees.

**Note:** If L-CH and R-CH are not maximized at the same point, adjust to the point where the levels of each channel are maximized and equal.

2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

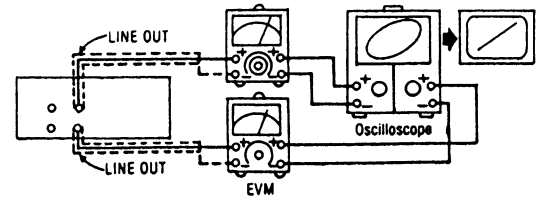


Fig. 1

Record/Playback Head

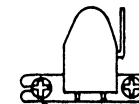


Fig. 2

### PLAYBACK GAIN ADJUSTMENT

1. Playback the gain adjusted portion (315 Hz, 0 dB) of the test tape (QZZCFM).
2. Adjust VR3 (L-CH) and VR4 (R-CH) so that the output is within the standard value.

Standard value:  $0.4V \pm 0.5dB$

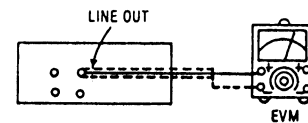


Fig. 3

### PLAYBACK FREQUENCY RESPONSE

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, -20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in Fig. 6 for both L-CH and R-CH.

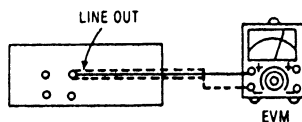


Fig. 4

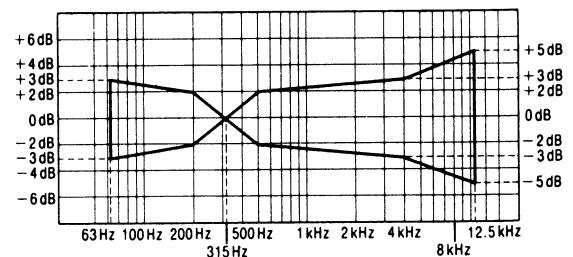
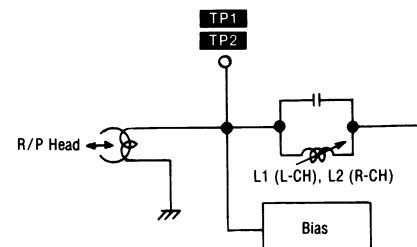


Fig. 5

### AC BIAS TRAP ADJUSTMENT

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record mode.
2. Adjust L1 (L-CH) [[L2 (R-CH)]] so that the output voltage between TP1 (TP2) and GND is less than the minimum value.



### OVERALL FREQUENCY RESPONSE

1. Insert the normal blank test tape (QZZCRA) and set the unit to the record pause mode.
2. Apply a reference input signal (1 kHz, -24 dB) through an attenuator.
3. Attenuate the signal by 20 dB and adjust the frequency from 50 Hz ~ 10 kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in Fig. 8 in comparison to the reference frequency (1 kHz).
6. If it is not within the standard range, adjust VR301 (L-CH) and VR302 (R-CH) so that the frequency level is within the standard range.
  - Level up in high frequency range .....Increase the bias current.
  - Level down in high frequency range ...Decrease the bias current.
7. Repeat steps 2~6 above using the CrO<sub>2</sub> tape (QZZCRX) and the metal tape (QZZCRZ) increasing the frequency range to 12.5 kHz (50 Hz ~ 12.5 kHz).
8. Assure that the level is within the range shown in Fig. 9.

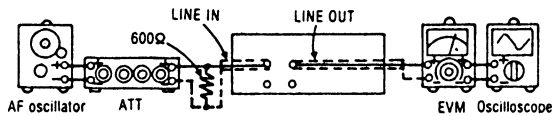


Fig. 10

### Normal Overall frequency response chart (NR OUT)

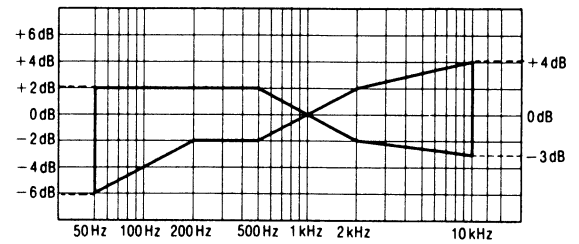


Fig. 8

### CrO<sub>2</sub> Metal Overall frequency response chart (NR OUT)

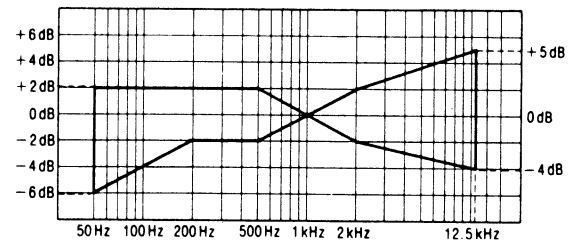


Fig. 9

### OVERALL GAIN ADJUSTMENT

1. Insert the normal blank test tape (QZZCRA) and set the unit to the record pause mode.
2. Apply a reference input signal (1 kHz, -24 dB). Attenuate the output so that its level becomes 0.4 V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust VR5 (L-CH) and VR6 (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

**Standard value: 0.4 V ± 0.5 dB**

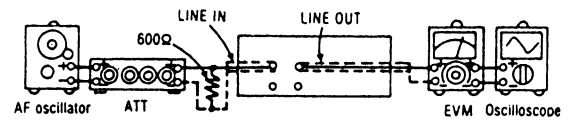
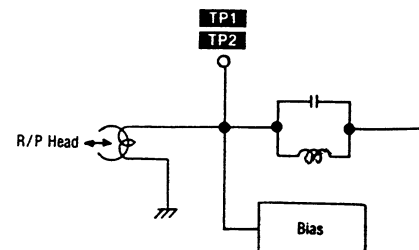


Fig. 11

### CHECKING THE EFFECT OF BIAS ADJ. VR

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record mode.
2. While turning the Bias Adj. VR from minimum to maximum, verify that the output at TP1 (L-CH) and TP2 (R-CH) to ground vary more than +3.5 dB. If the output variation span is less than +3.5 dB, adjust L303 (L-CH) or L302 (R-CH) until it exceeds +3.5 dB.



## ■ TERMINAL FUNCTION OF IC'S

- IC901 (MB88511-224N): MICROCOMPUTER (This microcomputer is used for mechanical operation.)

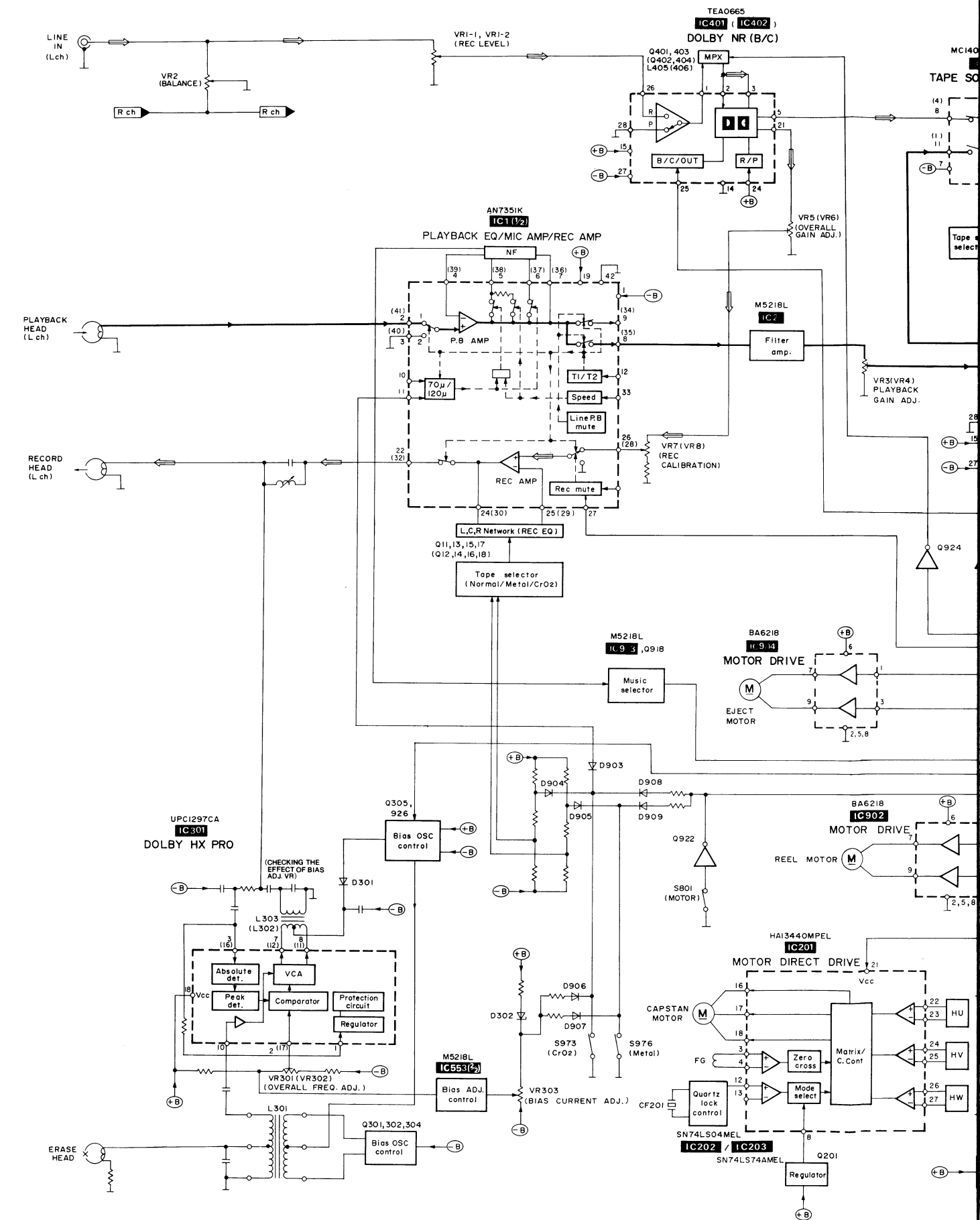
Pin No.	Mark	I/O Division	Function
1	DMT	O	Line out mute signal ("H"...ON, "L"...OFF)
2	RMT	O	REC AMP mute signal ("H"...ON, "L"...OFF)
3	$\overline{\text{BOS}}$	O	BIAS OSC ON/OFF control signal ("H"...OFF, "L"...ON)
4	$\overline{\text{REC}}$	O	REC LED ON/OFF control signal ("H"...OFF, "L"...ON)
5	$\overline{\text{PLAY}}$	O	PLAY LED ON/OFF control signal ("H"...OFF, "L"...ON)
6	EJECT F	O	Power eject motor open control signal ("H"...OPEN, "L"...CLOSE/STOP)
7	EJECT R	O	Power eject motor close control signal ("H"...CLOSE, "L"...OPEN/STOP)
8	$\overline{\text{CAPM}}$	O	Capstan motor ON/OFF control signal ("H"...OFF (POWER OFF or ABNORMAL CONDITION), "L"...ON)
9	$\overline{\text{SOL1}}$	O	Trigger solenoid ON/OFF control signal ("H"...OFF, "L"...ON)
10	$\overline{\text{SOL2}}$	O	Brake solenoid ON/OFF control signal ("H"...OFF, "L"...ON)
11	$\overline{\text{SOL2C}}$	O	Brake solenoid hold ON/OFF control signal ("H"...OFF, "L"...ON (FF/REW/MS))
12	RP (REEL PULSE)	I	Reel pulse signal
13	RMR	O	Reel motor reverse control signal ("H"...REW, "L"...STOP/PLAY/FF)
14	RMF	O	Reel motor forward control signal ("H"...FF/PLAY, "L"...STOP/REW)
15	$\overline{\text{OSC}}$	I	Single capstan/Dual capstan select signal ("H"...DUAL CAPSTAN, "L"...SINGLE CAPSTAN)
		O	Calibration OSC circuit ON/OFF control signal ("H"...OFF, "L"...ON)
16	Ex	I	Clock OSC terminal (6MHz)
17	X	O	
18	$\overline{\text{RES}}$	I	Reset signal ("L"...RESET)
19	OSCF	O	Not used in this unit. Calibration OSC circuit (400Hz/10kHz) select signal ("H"... HIGH FREQ. (10kHz), "L"... LOW FREQ. (400Hz))
20	$\overline{\text{POF}}$	I	AC POWER detect signal
21	Vss	—	GND

Pin No.	Mark	I/O Division	Function					
22	$\overline{\text{DIRECT}}$	I	CD direct operation det. signal					
		O	CD direct/LINE input select control signal ("H"...CD DIRECT, "L"...LINE INPUT)					
23	$\overline{\text{C}}$	O	Dolby NR mode select signal		NR OFF	Dolby B	Dolby C	dbx
24	$\overline{\text{B}}$			$\overline{\text{C}}$	H	H	L	L
			$\overline{\text{B}}$	H	L	H	L	L
25	MPX	O	MPX coil ON/OFF control signal ("H"...MPX OFF, "L"...MPX ON)					
26	$\text{T}/\overline{\text{S}}$	I	Two head/Three head select signal ("H"... THREE HEAD)					
		O	Tape/Source monitor select control ("H"...TAPE MONITOR, "L"...SOURCE MONITOR)					
27	$\overline{\text{HALF}}$	I	Cassette half det. SW terminal ("L"...ON)					
28	$\overline{\text{MODE}}$	I	Mechanism mode SW terminal					
29	$\overline{\text{ARM}}$	I	Auto Rec Mute key signal ("L"...PUSH)					
30	AVss	—	Connected to GND					
31	$\text{AV}\overline{\text{R}}$	—	Connected to GND					
32	AVcc	—	Power supply terminal					
33	KEY 1	I	Key SW input (STOP/FF REW/PLAY/REC/PAUSE/C/B/MPX/TIMER REC/TIMER PLAY)					
34	KEY 2	I	Key SW input (MEMORY REPEAT/MEMORY STOP/EJECT/MONITOR/CD DIRECT/OSC/TEST)					
35	ATS	I	Auto Tape Select SW input (ATSC/ATSM/EJECT OPEN LEAF SW)					
36	INH	I	REC INH SW Input (REC INH/EJECT MOTOR LEAF SW)					
37	SYNC	—	Connected to GND					
38	DISP	O	Serial data signal of FL display (ACTIVE: "H")					
39	MSP	I	Music select det. signal ("H"...NO SIGNAL, "L"...ON SIGNAL)					
40	$\overline{\text{MEMORY PULSE}}$	I	Memory Pulse signal					
41	$\overline{\text{REMOCON}}$	I	Not used in this unit. Remote control serial data ("L" for 50ms. with counter "0000")					
42	Vcc	—	Power supply terminal					

• IC551 (HD404302SA07): MICROCOMPUTER (This microcomputer is used for FL meter operation.)

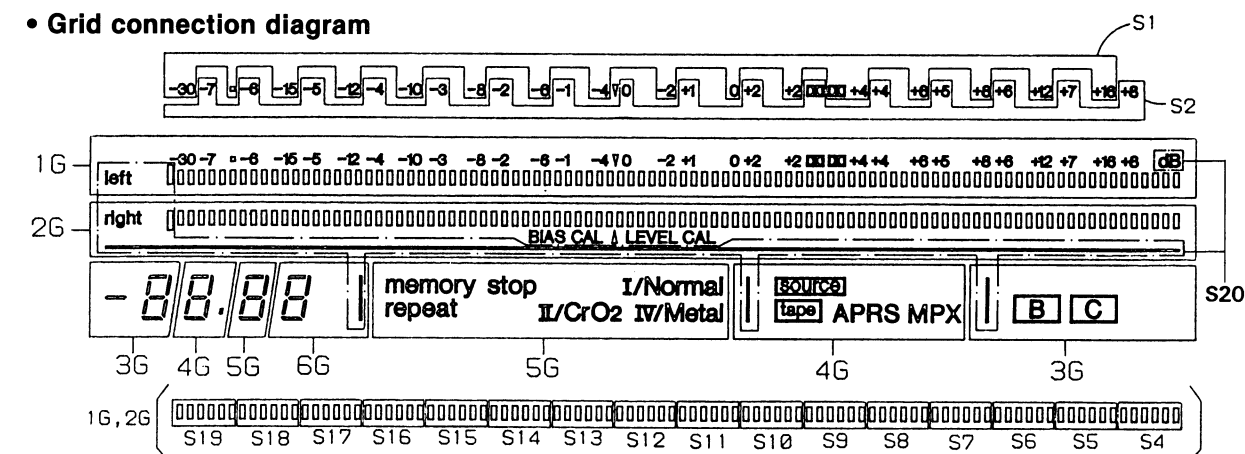
Pin No.	Mark	I/O Division	Function	Pin No.	Mark	I/O Division	Function
1	S5	O	Segment signal for FL display	22	AVcc	—	Power supply terminal
2	S6	O		23	VR IN	I	Rec level control (VR MAX... +5V)
3	S7	O		24	F IN	I	Function key terminal (COUNTER RESET/COUNTER MODE/APRS)
4	Vdisp	—	Pull down power supply terminal (—Vcc)	25	SIG L	I	LCH level signal
5	S8	O	Segment signal for FL display	26	SIG R	I	RCH level signal
6	S9	O		27	AVss	—	Connected to GND
7	S10	O		28	RESET	I	Reset terminal (with Reset: "H")
8	S11	O		29	TEST	I	Test terminal
9	S12	O		30	OSC 1	O	Clock OSC terminal (4MHz)
10	S13	O		31	OSC 2	I	
11	S14	O		32	Vcc	I	Power supply terminal
12	S15	O		33	G1	O	Grid signal for FL display
13	S16	O		34	G2	O	
14	S17	O		35	G3	O	
15	S18	O		36	G4	O	
16	S19	O		37	G5	O	
17	RPT	I	Reel pulse signal of tape up reel	38	G6	O	Segment signal for FL display
18	RPS	I	Reel pulse signal of supply reel	39	S1	O	
19	MP	O	Memory pulse signal ("L" for 50ms. with counter "0000")	40	S2	O	
20	DISP	I	Serial data signal (ACTIVE: "H")	41	S3	O	
21	GND	—	GND terminal	42	S4	O	

■ BLOCK DIAGRAM



## INTERNAL CONNECTION OF FL

- **Grid connection diagram**

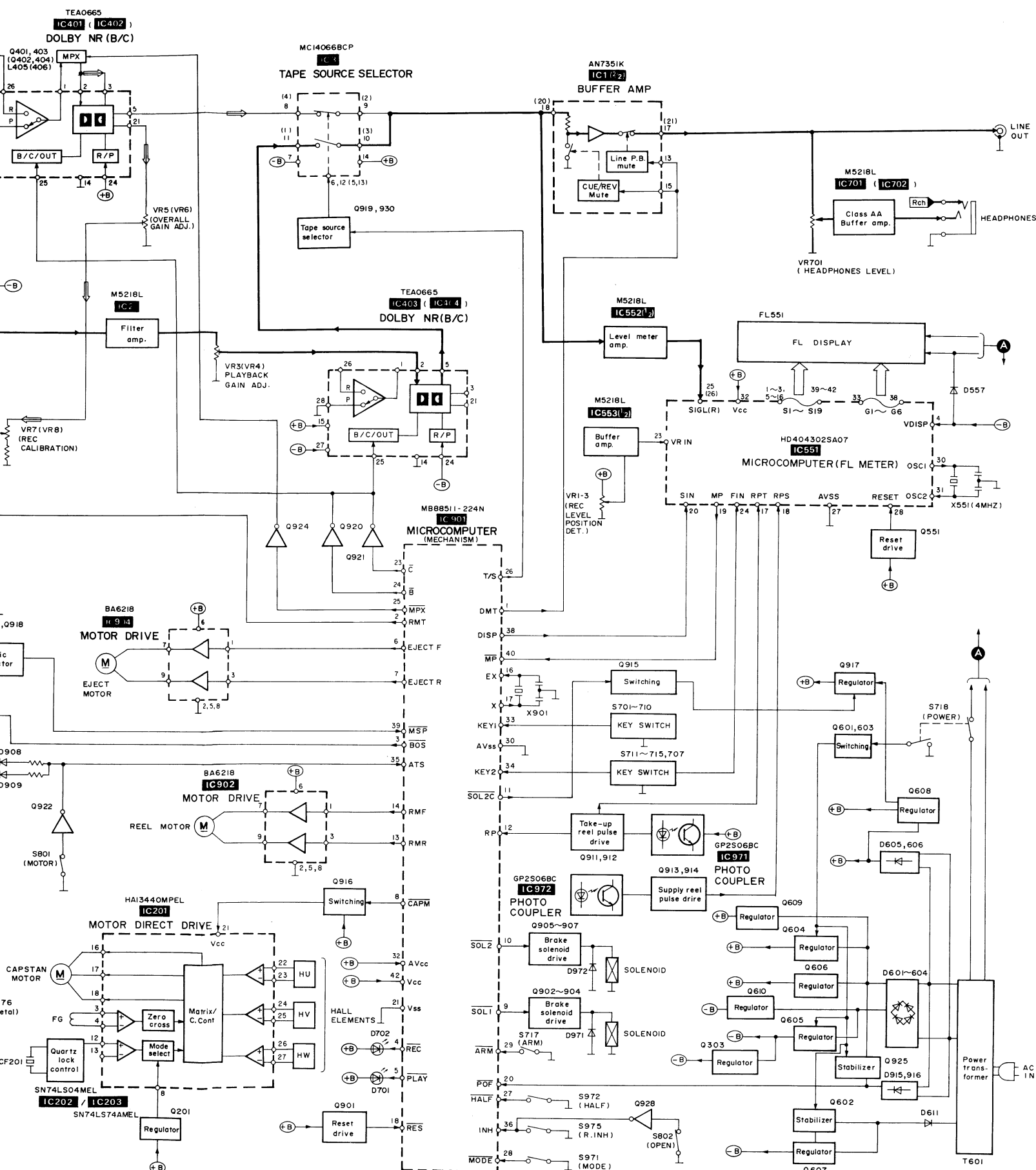


- **Anode connection table**

	1G	2G	3G	4G	5G	6G
S1	S1	LEVEL CAL	-	APRS	-	-
S2	S2	BIAS CAL	-	-	-	-
S3	▼	▲	-	-	-	-
S4			-	-	-	-
S5			-	-	-	-
S6			-	-	memory	-
S7			-	-	repeat	-
S8			-	tape	stop	-
S9			B	source	-	-
S10			C	-	I / Normal	-
S11			-	MPX	II / CrO <sub>2</sub>	-
S12			—	■	IV/Metal	-
S13			a	a	a	a
S14			b	b	b	b
S15			f	f	f	f
S16			g	g	g	g
S17			c	c	c	c
S18			e	e	e	e
S19			d	d	d	d
S20 (dB)	left     dB	right			-	

- **Pin connection**

PIN NO.	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1				
CONNECTION	N P	N P	N P	N P	S 19	S 18	S 17	S 16	S 15	S 14	S 13	S 12	S 11	S 10	S 9	S 8	S 7	S 6	S 5	S 4	S 3	S 2	S 1	C	N	G	6	5	4	3	2	1	S	N	P	N	P	N	P	N	P	N	F	1

[illegible]

## Notes

-  Playback signal
-  Recording signal

# SCHEMATIC DIAGRAM

(Parts list on pages 36~38, 44~46.)

(This schematic diagram may be modified at any time with development of new technology.)

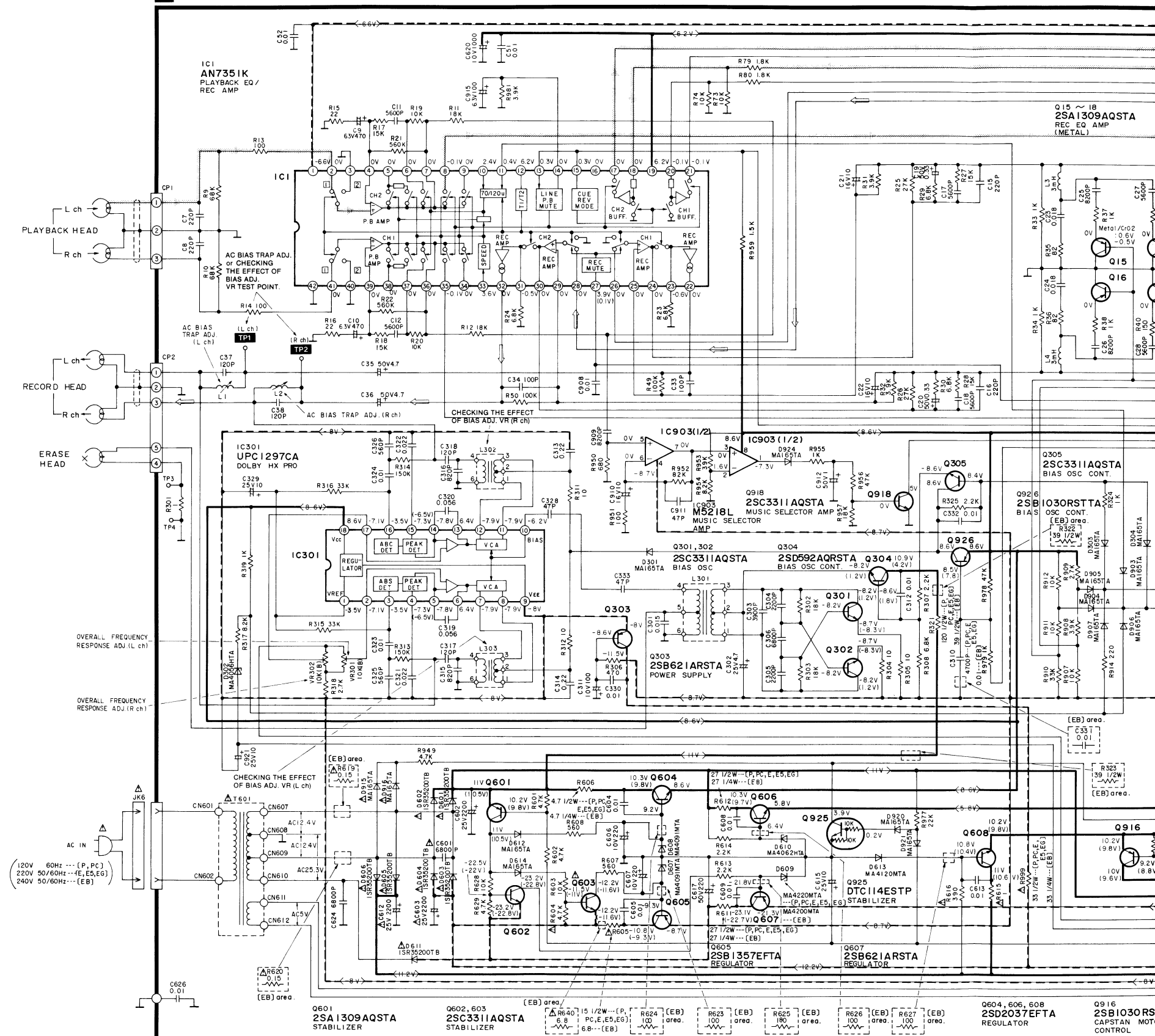
## Notes:

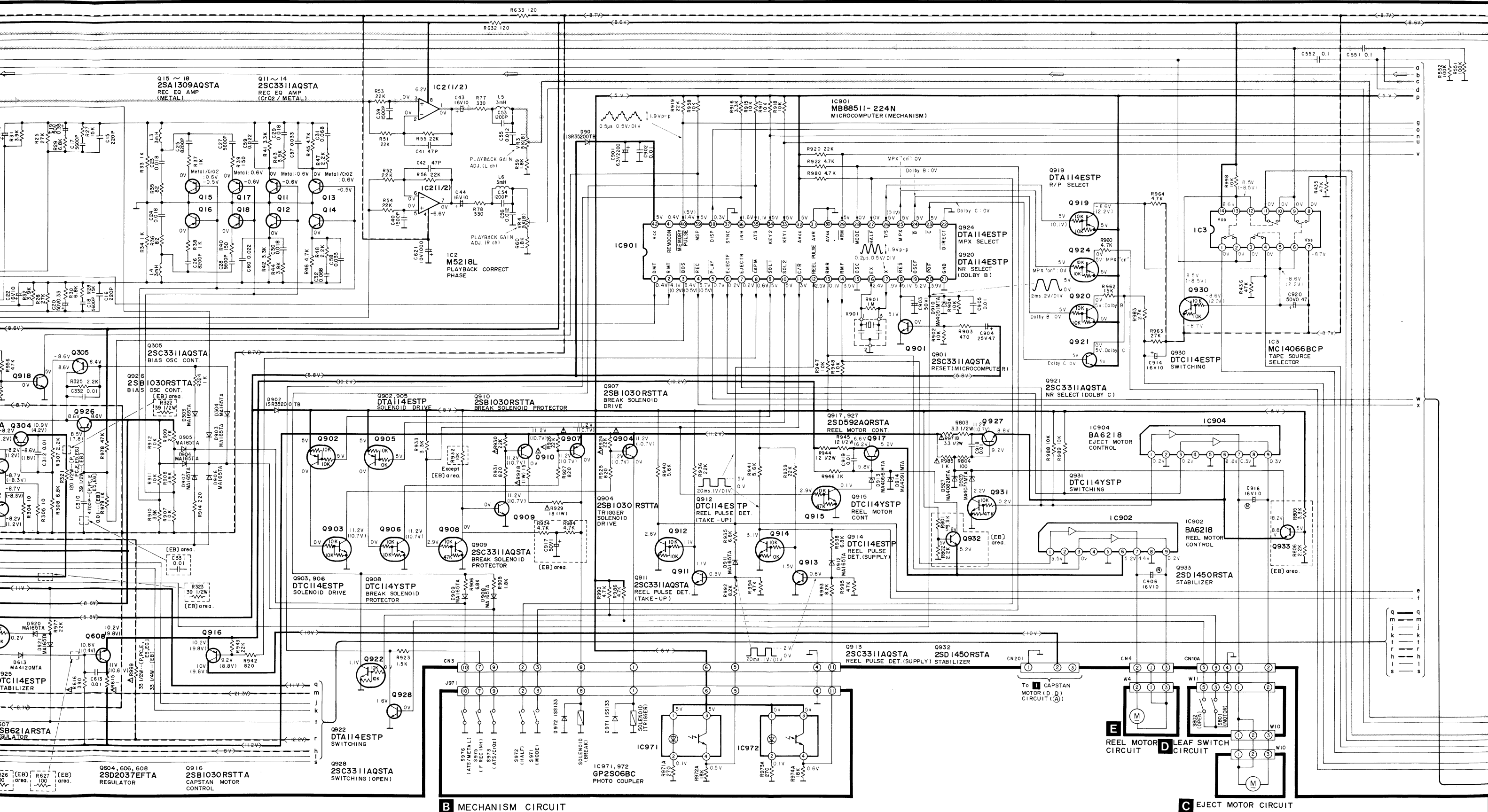
- S551 : Monitor switch (monitor) in "off" position.
- S701 : Stop switch (stop) in "off" position.
- S702 : F.F. switch (ff) in "off" position.
- S703 : Rew switch (rew) in "off" position.
- S704 : Playback switch (Play) in "off" position.
- S705 : Record switch (rec) in "off" position.
- S706 : Pause switch (pause) in "off" position.
- S707 : Dolby noise-reduction switch (Dolby NRC) in "off" position.
- S708 : Dolby noise-reduction switch (Dolby NR B) in "off" position.
- S709 : Multiplex filter switch (MPX filter) in "off" position.
- S710 : Timer switch (timer) in "off" position.
- S711 : Counter reset switch (counter reset) in "off" position.
- S712 : Counter mode switch (counter mode) in "off" position.
- S713 : Meter range switch (meter range) in "off" position.
- S714 : Memory mode switch (memory repeat) in "off" position.
- S715 : Memory mode switch (memory stop) in "off" position.
- S716 : APRS switch in "off" position.
- S717 : Automatic-record-muting switch (auto rec mute) in "off" position.
- S718 : Power switch (standby  $\phi$  / on) in "on" position.
- S719 : Open/close switch (open/close) in "off" position.
- S801 : Motor switch in "off" position. (Loading)
- S802 : Open switch in "off" position. (Loading)
- S971 : Mode switch in "off" position.
- S972 : Cassette half detection switch in "off" position.
- S973 : ATS (CrO<sub>2</sub>) switch in "off" position.
- S975 : Rec Inhibit switch in "off" position.
- S976 : ATS (Metal) switch in "off" position.
- Resistance are in ohms ( $\Omega$ ), 1/4 watt unless specified otherwise.
- 1K=1,000 ( $\Omega$ ), 1M=1,000k ( $\Omega$ )
- Capacity are in micro-farads ( $\mu$ F) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
- ( ) .....Voltage values at record mode.
- For measurement us EVM.
- Important safety notice  
Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- (  $\text{---} < +B > \text{---}$  ) indicates +B (bias).
- (  $\text{---} < -B > \text{---}$  ) indicates -B (bias).
- (  $\text{---} < \text{---} > \text{---}$  ) indicates the flow of the playback signal.
- (  $\text{---} < \text{---} > \text{---}$  ) indicates the flow of the record signal.

## \* Caution!

- IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.
- \* Cover the parts boxes made of plastics with aluminum foil.
- \* Ground the soldering iron.
- \* Put a conductive mat on the work table.
- \* Do not touch the legs of IC or LSI with the fingers directly.

## A MAIN CIRCUIT

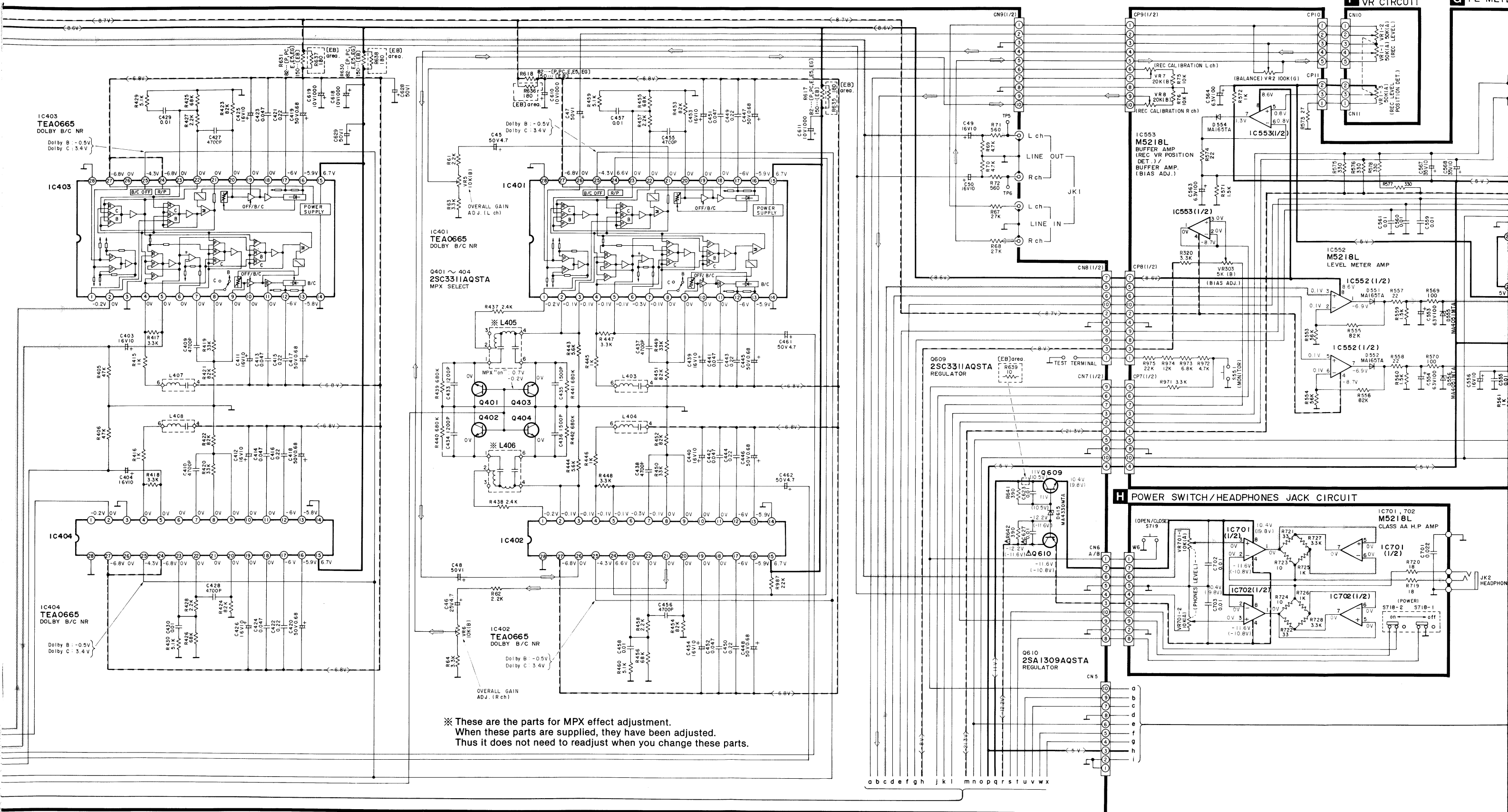


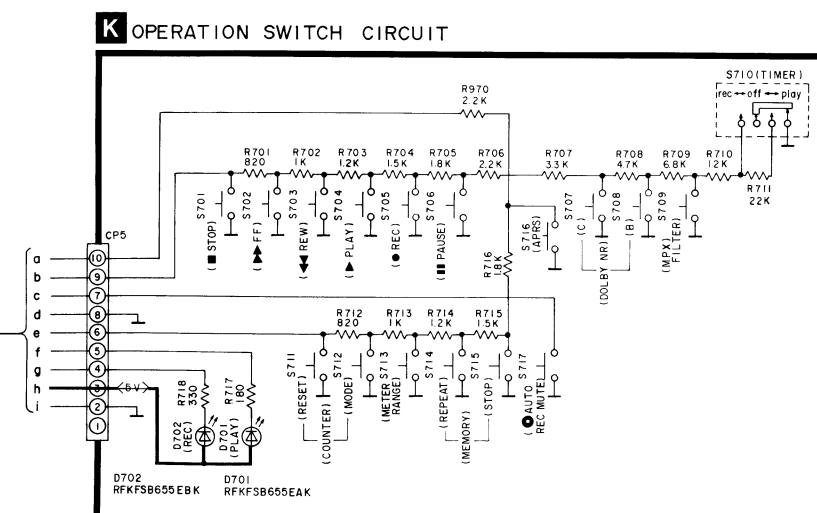
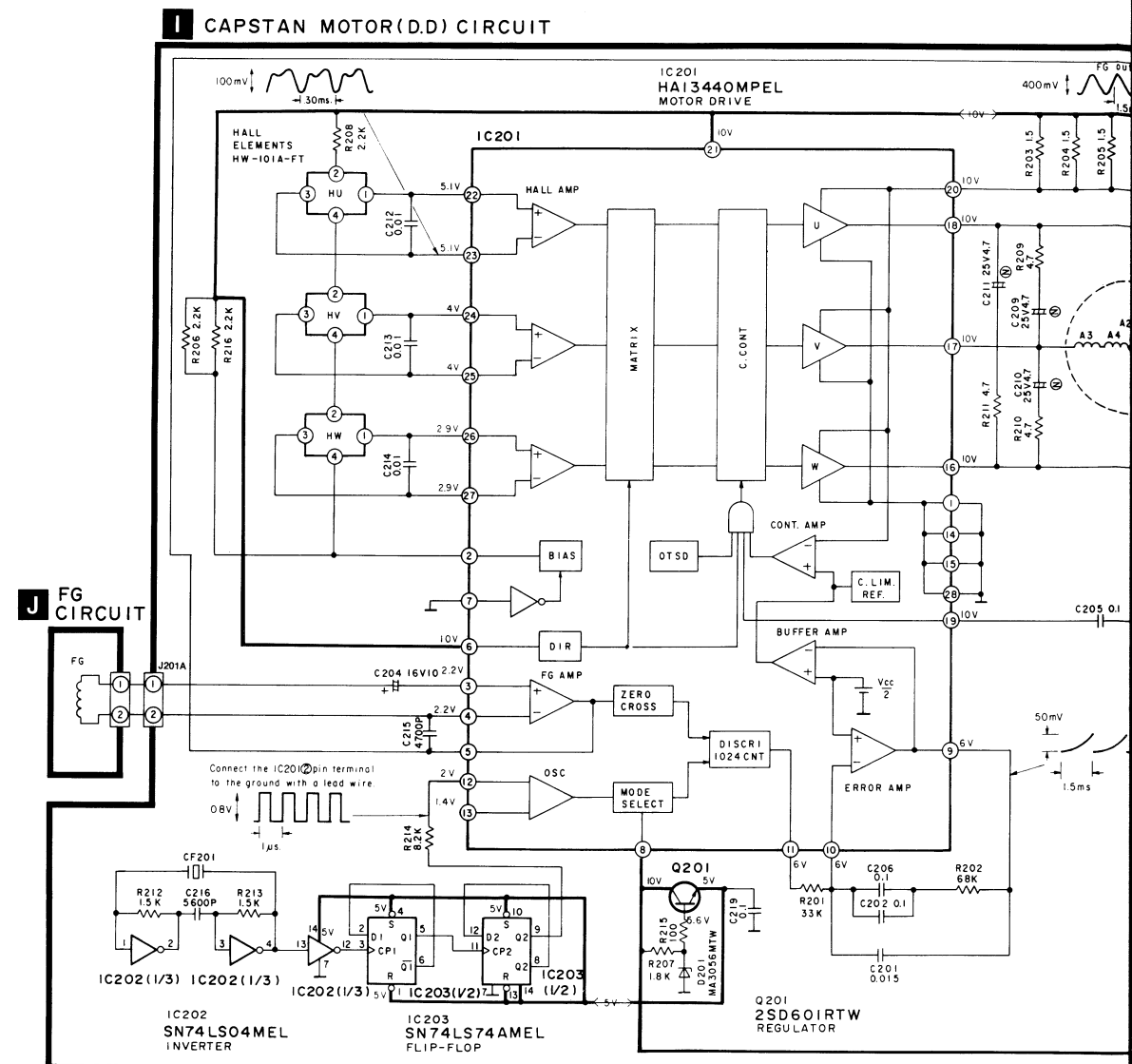


B MECHANISM CIRCUIT

C EJECT MOTOR CIRCUIT



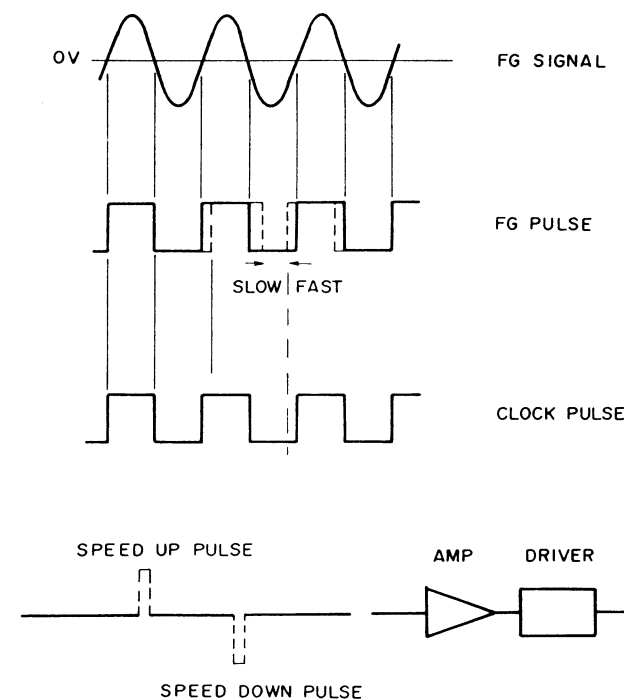




- Note:** Check pin the



The capstan motor is actuated by the DD motor digital servo system. The FG pulse is generated after the detection of the zero crosspoint, and the reference signal generated from the quartz oscillator is compared with this FG pulse. From this comparison, the accelerated and reduced speed pulses are generated, causing the driving coil to function.



Problem	Possible Cause	Check Points
1. The motor does not rotate.	1. No power supply (+12V) 2. The Hall element has failed (Current does not flow). 3. The ceramic (or crystal) does not oscillate.	<ul style="list-style-type: none"> <li>• Check the voltage applied to the connector.</li> <li>• Check the DC potential on IC pins ⑫~⑰.</li> <li>*Check the waveform of IC pin ⑬.</li> </ul>
2. The motor does not rotate properly. (When pressed, it stops at certain angles. Sometimes it does not rotate even if power is ON.)	1. The coil is broken or not properly soldered. 2. Output of the Hall element is not proper.	<ul style="list-style-type: none"> <li>*Check the conductance of the coil. If normal, the resistances between IC pins ⑯~⑰, ⑰~⑱, ⑯~⑱ will reach 20 ohms.</li> <li>• Check the waveform of IC pins ⑫~⑰.</li> </ul>
3. The motor is out of control.	1. The FG coil is broken.	<ul style="list-style-type: none"> <li>• Check the waveform of IC pin ⑤.</li> <li>• Check if the FG coil is broken.</li> </ul>
4. Abnormal wow	1. Same as those described for problem 2.	

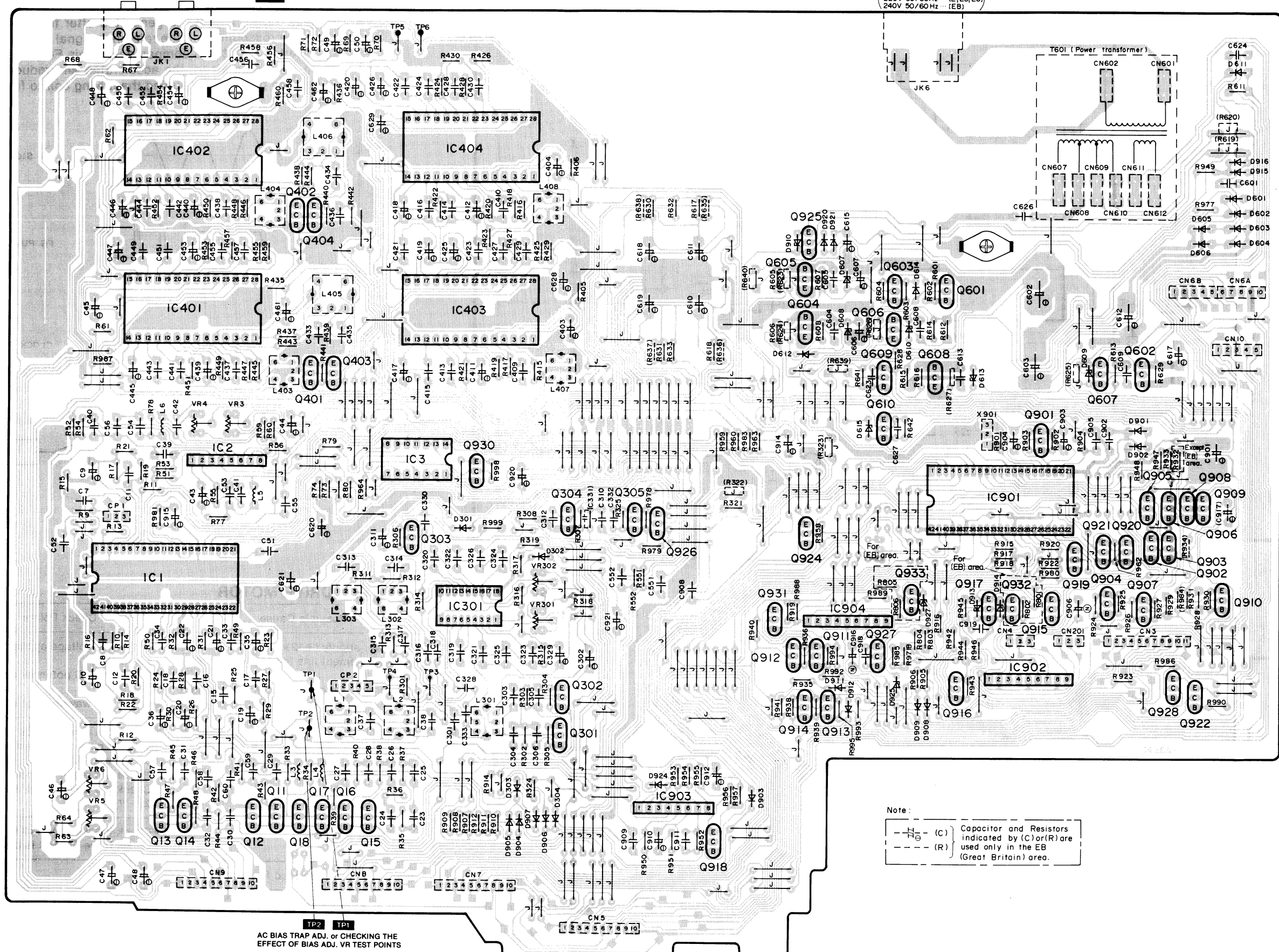
**Note:** Check the points marked with an asterisk (\*) by removing the DD motor control P.C.B. and then connecting IC pin ② to GND with a lead wire. (After the DD motor control P.C.B. is removed, current will start flowing through the coil, heating the IC.)

PRINTED CIRCUIT BOARDS

LINE IN LINE OUT

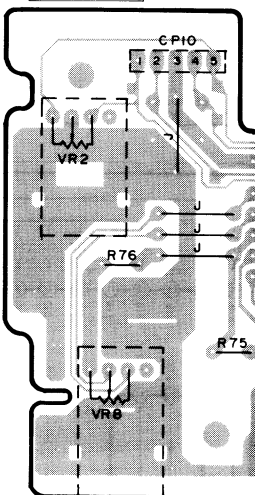
A MAIN P.C.B.

AC IN  
(120V 60Hz ... (P,PC)  
220V 50/60Hz ... (E, E5, E6)  
240V 50/60Hz ... (E6)



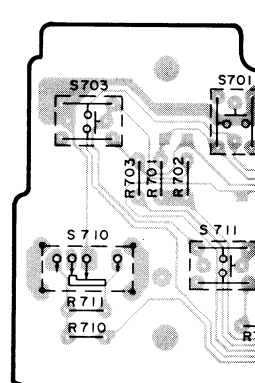
TP2 TP1  
AC BIAS TRAP ADJ. or CHECKING THE  
EFFECT OF BIAS ADJ. VR TEST POINTS

BALANCE



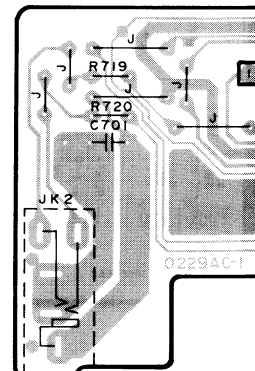
R-REC CALIBRATION

K OPERATION S  
REW STOP



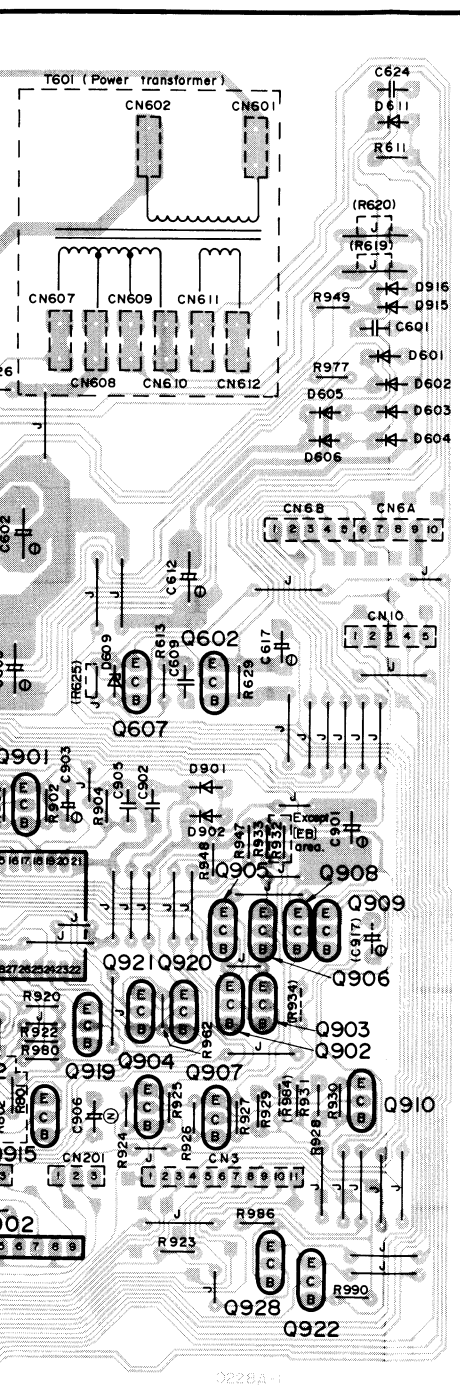
(REC-OFF-PLAY) (RESET)  
TIMER COUNTER

H POWER SWITCH

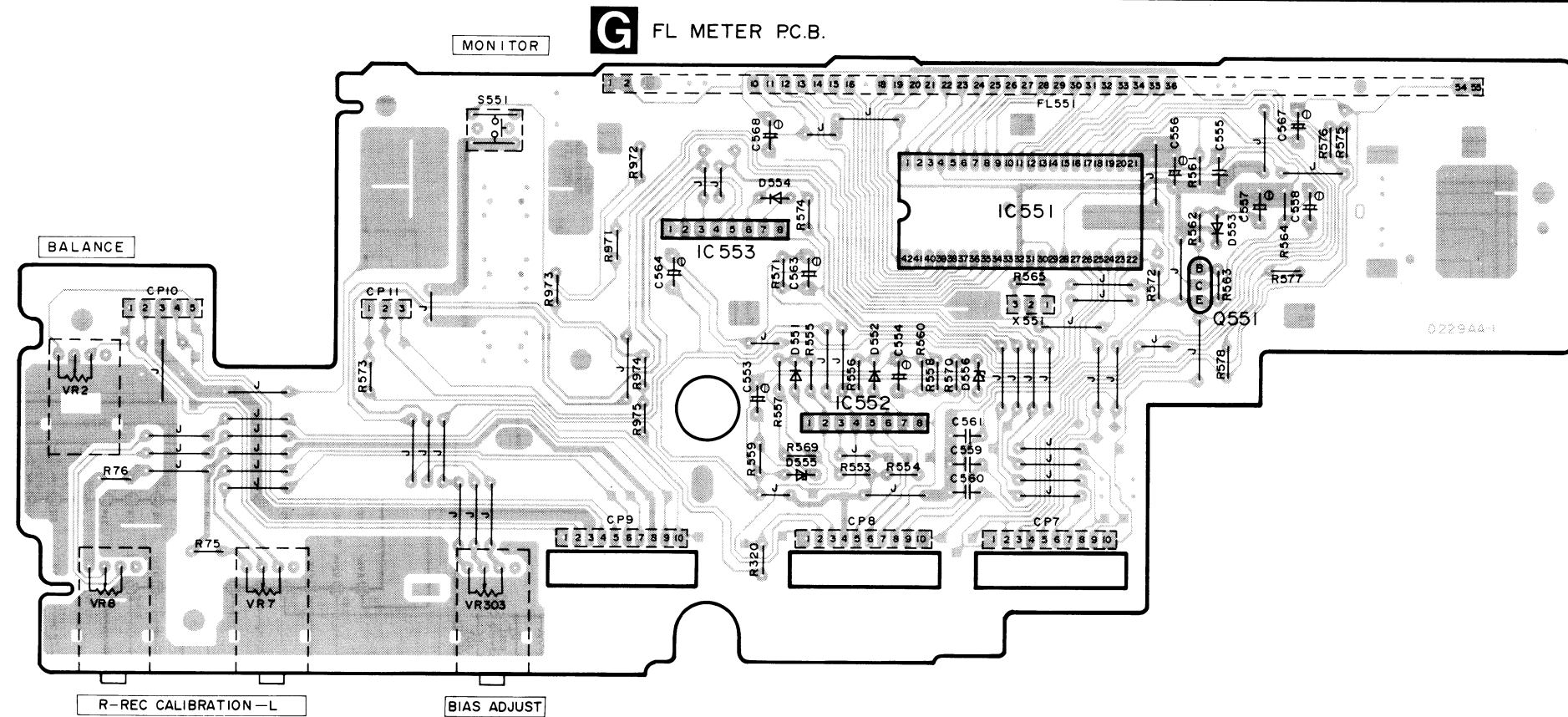


PHONES

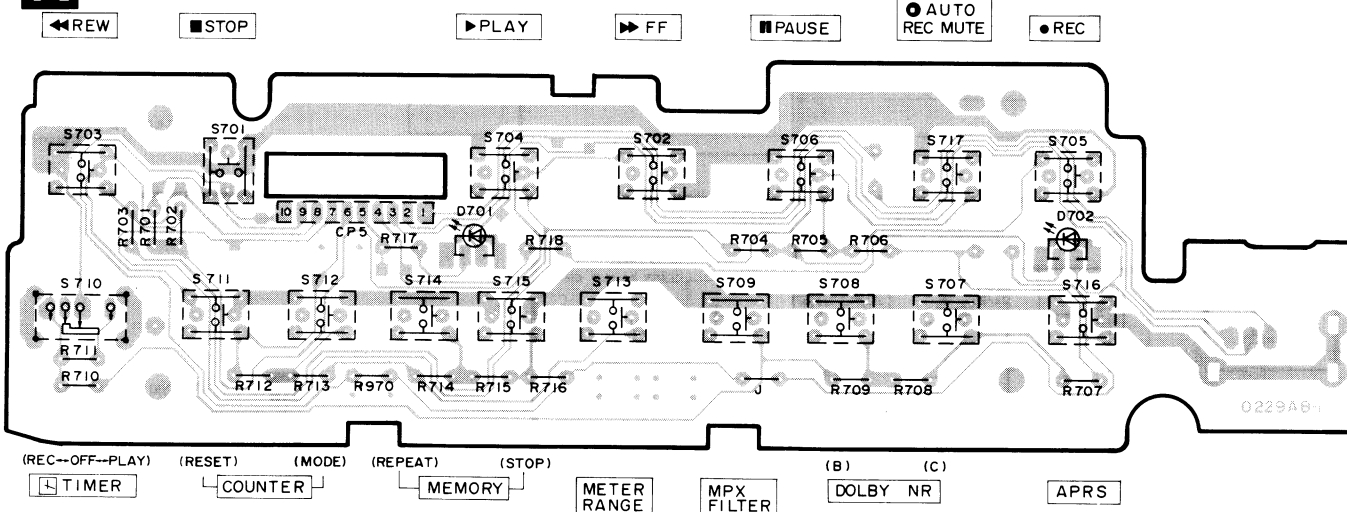




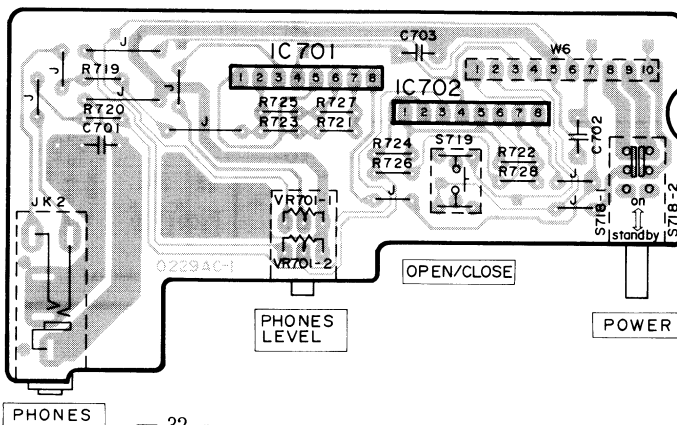
Resistors  
(C) or (R) are  
in EB  
area.



**K** OPERATION SWITCH P.C.B.



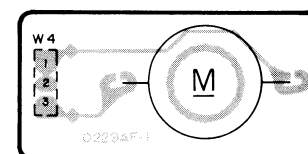
**H** POWER SWITCH/HEADPHONES P.C.B.



PHONES

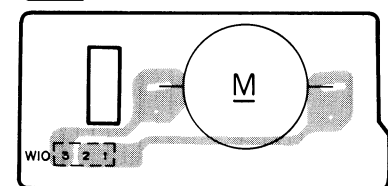
— 32 —

**E** REEL MOTOR P.C.B.

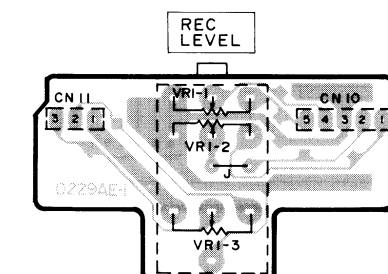


— 33 —

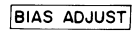
**C** EJECT MOTOR P.C.B.



**F** REC LEVEL VR P.C.B.



MONITOR



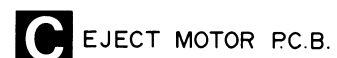
**■** CAPSTAN MOTOR (D.D) P.C.B.



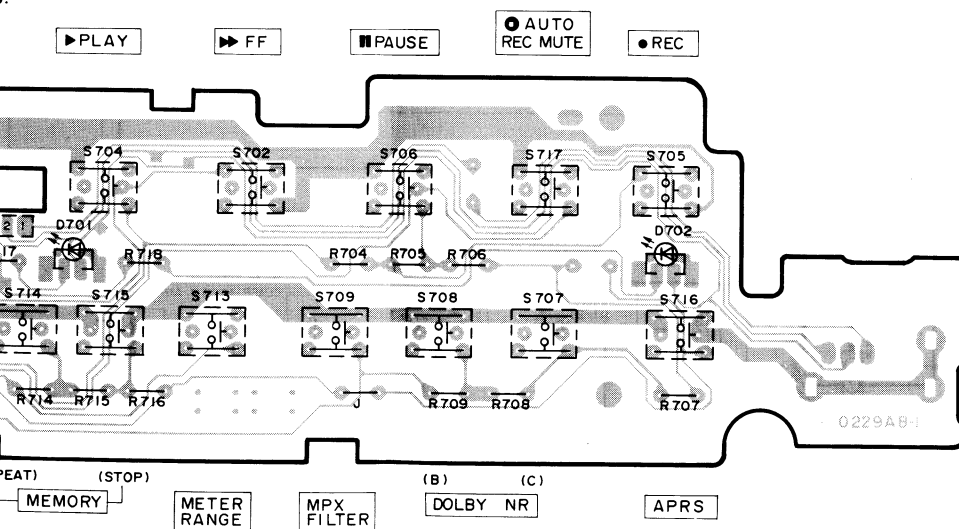
**J** FG P.C.B.



**D** LEAF SWITCH P.C.B.



**C** EJECT MOTOR P.C.B.



NES P.C.B.

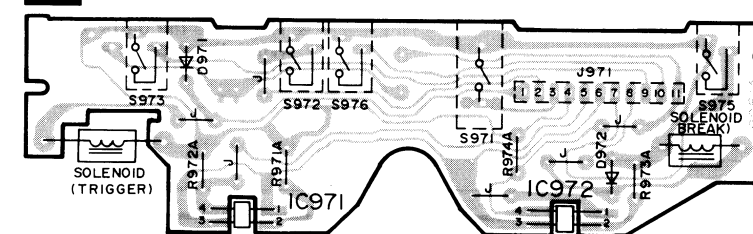
**E** REEL MOTOR P.C.B.



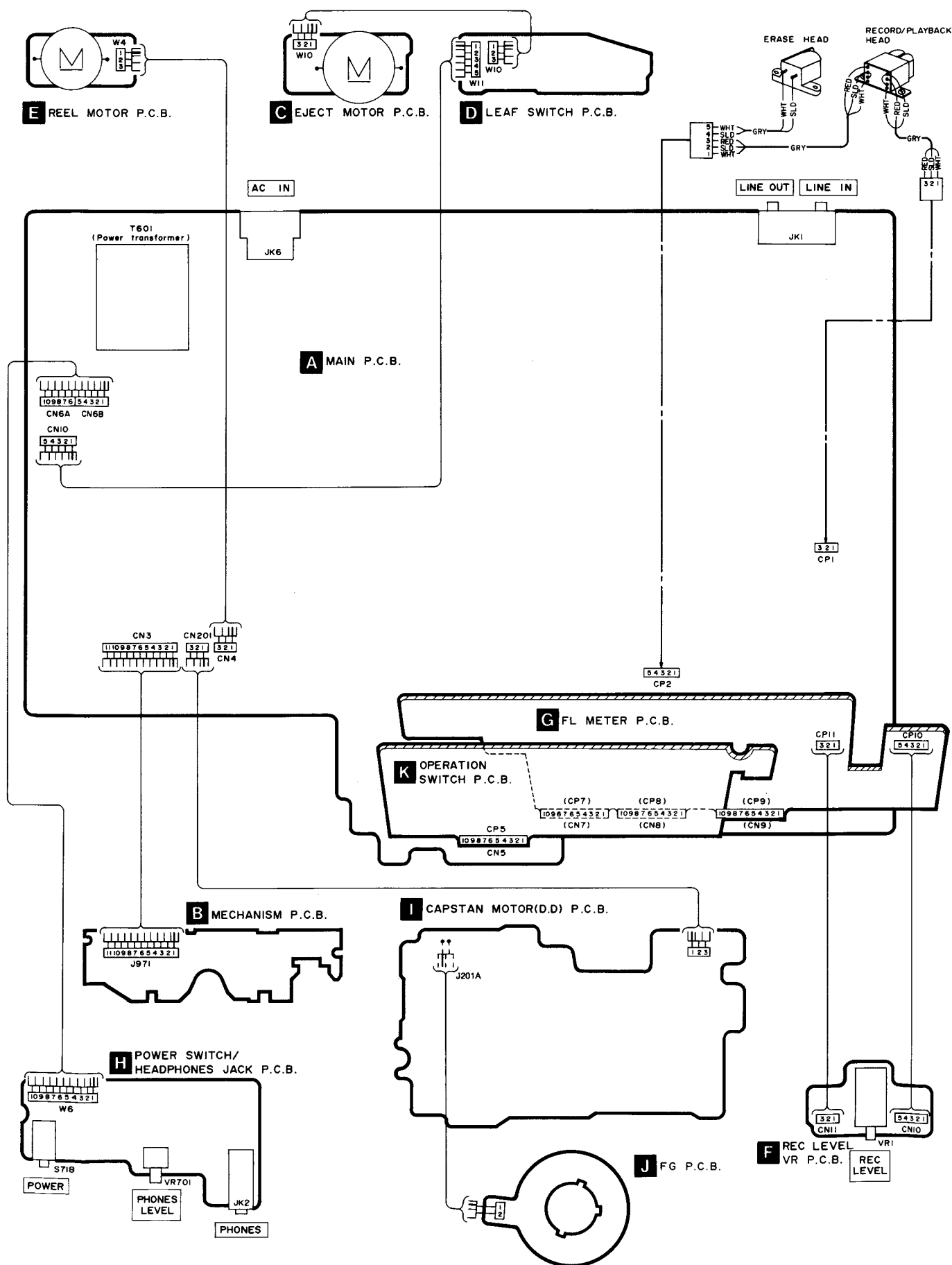
**F** REC LEVEL VR P.C.B.



**B** MECHANISM P.C.B.



# WIRING CONNECTION DIAGRAM



## REPLACEMENT PARTS LIST

Notes : \* Important safety notice:

Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

\* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.) Parts without these indications can be used for all areas.

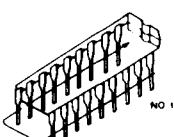
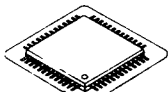
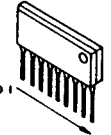
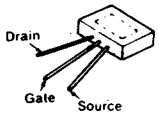
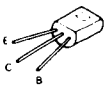
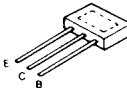
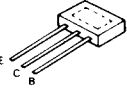

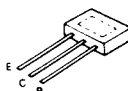

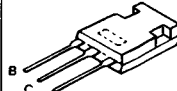
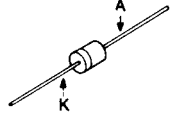
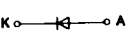
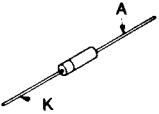
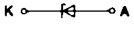
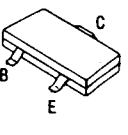

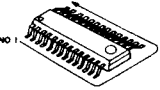
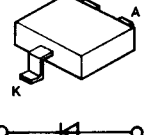

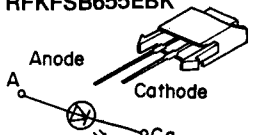
Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		Q905	DTA114ESTP	TRANSISTOR	
				Q906	DTC114ESTP	TRANSISTOR	
				Q907	2SB1030RSTTA	TRANSISTOR	$\Delta$
IC1	AN7351K	IC, PLAYBACK EQ. /MIC AMP		Q908	DTC114YSTP	TRANSISTOR	
IC2	M5218L	IC, PLAYBACK CORRECT PHASE		Q909	2SC3311AQSTA	TRANSISTOR	
IC3	MC14066BCP	IC, TAPE SOURCE SELECTOR		Q910	2SB1030RSTTA	TRANSISTOR	$\Delta$
IC201	HA13440MPCL	IC, MOTOR DRIVE		Q911	2SC3311AQSTA	TRANSISTOR	
IC202	SN74LS04MEL	IC, INVERTER		Q912	DTC114ESTP	TRANSISTOR	
IC203	SN74LS74AMEL	IC, FLIP-FLOP		Q913	2SC3311AQSTA	TRANSISTOR	
IC301	UPC1297CA	IC, DOLBY HX PRO		Q914	DTC114ESTP	TRANSISTOR	
IC401, 402	TEA0665	IC, DOLBY B/C NR		Q915	DTC114YSTP	TRANSISTOR	
IC403, 404	TEA0665	IC, DOLBY B/C NR		Q916	2SB1030RSTTA	TRANSISTOR	
IC551	HD404302SA07	IC, MICROCOMPUTER; FL METER		Q917	2SD592A	TRANSISTOR	
IC552	M5218L	IC, LEVEL METER AMP		Q918	2SC3311AQSTA	TRANSISTOR	
IC553	M5218L	IC, BUFFER AMP		Q919, 920	DTA114ESTP	TRANSISTOR	
IC701, 702	M5218L	IC, Class AA : H.P. AMP		Q921	2SC3311AQSTA	TRANSISTOR	
IC901	MB88511-224N	IC, MICROCOMPUTER; MECHANICAL		Q922	DTA114ESTP	TRANSISTOR	
IC902	BA6218	IC, REEL MOTOR CONTROL		Q924	DTA114ESTP	TRANSISTOR	
IC903	M5218L	IC, MUSIC SELECTOR AMP		Q925	DTC114ESTP	TRANSISTOR	
IC904	BA6218	IC, EJECT MOTOR CONTROL		Q926	2SB1030RSTTA	TRANSISTOR	
IC971, 972	GP2S06BC	IC, PHOTO COUPLER		Q927	2SD592A	TRANSISTOR	
		TRANSISTOR(S)		Q928	2SC3311AQSTA	TRANSISTOR	
				Q930	DTC114ESTP	TRANSISTOR	
Q11-14	2SC3311AQSTA	TRANSISTOR		Q931	DTC114YSTP	TRANSISTOR	
Q15-18	2SA1309AQSTA	TRANSISTOR		Q932, 933	2SD1450RSTA	TRANSISTOR	(EB)
Q201	2SD601RTW	TRANSISTOR				DIODE (S)	
Q301, 302	2SC3311AQSTA	TRANSISTOR					
Q303	2SB621ARSTA	TRANSISTOR		D201	MA3056MTW	DIODE	
Q304	2SD592A	TRANSISTOR		D301	MA165TA	DIODE	
Q305	2SC3311AQSTA	TRANSISTOR		D302	MA4056H	DIODE	
Q401-404	2SC3311AQSTA	TRANSISTOR		D303, 304	MA165TA	DIODE	
Q551	2SA1309AQSTA	TRANSISTOR		D551-554	MA165TA	DIODE	
Q601	2SA1309AQSTA	TRANSISTOR		D555, 556	MA4051MTA	DIODE	
Q602	2SC3311AQSTA	TRANSISTOR		D601-606	1SR35200TB	DIODE	$\Delta$
Q603	2SC3311AQSTA	TRANSISTOR	$\Delta$	D607, 608	MA4091MTA	DIODE	
Q604	2SD2037EFTA	TRANSISTOR		D609	MA4220	DIODE	(P, PC, E, E5, EG)
Q605	2SB1357EFTA	TRANSISTOR		D609	MA4200M	DIODE	(EB)
Q606	2SD2037EFTA	TRANSISTOR		D610	MA4062HTA	DIODE	
Q607	2SB621ARSTA	TRANSISTOR		D611	1SR35200TB	DIODE	$\Delta$
Q608	2SD2037EFTA	TRANSISTOR		D612	MA165TA	DIODE	
Q609	2SC3311AQSTA	TRANSISTOR		D613	MA4120M	DIODE	
Q610	2SA1309AQSTA	TRANSISTOR	$\Delta$	D614	MA165TA	DIODE	
Q901	2SC3311AQSTA	TRANSISTOR		D615	MA4330MTA	DIODE	
Q902	DTA114ESTP	TRANSISTOR		D701	RFKFSB655EAK	L. E. D. ASS'Y	
Q903	DTC114ESTP	TRANSISTOR		D702	RFKFSB655EBK	L. E. D. ASS'Y	
Q904	2SB1030RSTTA	TRANSISTOR	$\Delta$	D901, 902	1SR35200TB	DIODE	



Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
R716	ERDS2TJ182T	1/4W 1.8K	R946	ERDS2TJ102T	1/4W 1K	C15, 16	ECCD1H221KB	50V 220P
R717	ERDS2TJ181T	1/4W 180	R947, 948	ERDS2TJ103T	1/4W 10K	C17, 18	ECQB1H562JZ3	50V 5600P
R718	ERDS2TJ331	1/4W 330	R949	ERDS2TJ472T	1/4W 4.7K	C19, 20	ECEA1H833B	50V 0.33U
R719, 720	ERDS2TJ180	1/4W 18	R950	ERDS2TJ681T	1/4W 680	C21, 22	ECEA1CPX100B	16V 10U
R721, 722	ERDS2TJ330T	1/4W 33	R951	ERDS2TJ101T	1/4W 100	C23, 24	ECQB1H183JZ3	50V 0.018U
R723, 724	ERDS2TJ100T	1/4W 10	R952	ERDS2TJ823T	1/4W 82K	C25, 26	ECQB1H822JZ3	50V 8200P
R725, 726	ERDS2TJ102T	1/4W 1K	R953	ERDS2TJ393T	1/4W 39K	C27, 28	ECQB1H562JZ3	50V 5600P
R727, 728	ERDS2TJ332T	1/4W 3.3K	R954	ERDS2TJ822T	1/4W 8.2K	C29, 30	ECQB1H183JZ3	50V 0.018U
R801	ERDS2TJ332T	1/4W 3.3K (EB)	R955	ERDS2TJ102T	1/4W 1K	C31, 32	ECQV1H683JZ3	50V 0.068U
R802	ERDS2TJ222T	1/4W 2.2K (EB)	R956	ERDS2TJ473T	1/4W 47K	C33, 34	ECBT1H101KB5	50V 100P
R803	ERDS1FVJ3R3T	1/2W 3.3	R957	ERDS2TJ183T	1/4W 18K	C35, 36	ECEA1HPX4R7B	50V 4.7U
R804	ERDS2TJ101T	1/4W 100	R958	ERDS2TJ103T	1/4W 10K	C37, 38	ECQP1121JZ	100V 120P
R805	ERDS2TJ332T	1/4W 3.3K (EB)	R959	ERDS2TJ152T	1/4W 1.5K	C39, 40	ECKD1H152KB	50V 1500P
R806	ERDS2TJ222T	1/4W 2.2K (EB)	R960	ERDS2TJ472T	1/4W 4.7K	C41, 42	ECBT1H470J5	50V 47P
R901	ERDS2TJ105T	1/4W 1M	R962	ERDS2TJ153T	1/4W 15K	C43, 44	ECEA1CPX100B	16V 10U
R902	ERDS2TJ103T	1/4W 10K	R963	ERDS2TJ273T	1/4W 27K	C45, 46	ECEA1HPX4R7B	25V 4.7U
R903	ERDS2TJ471T	1/4W 470	R964	ERDS2TJ472T	1/4W 4.7K	C47, 48	ECEA1HPS010	50V 1U
R904	ERDS2TJ103T	1/4W 10K	R970	ERDS2TJ222T	1/4W 2.2K	C49, 50	ECEA1CPX100B	16V 10U
R905	ERDS2TJ182T	1/4W 1.8K	R971	ERDS2TJ332T	1/4W 3.3K	C51, 52	ECKR1H103ZF5	50V 0.01U
R906	ERDS2TJ682T	1/4W 6.8K	R971A	ERDS2TJ271T	1/4W 270	C53, 54	ECQB1H122JZ3	50V 1200P
R907	ERDS2TJ103T	1/4W 10K	R971B	ERDS1FVJ3R3T	1/2W 3.3 $\Delta$	C55, 56	ECQB1H123JZ	50V 0.012U
R908	ERDS2TJ392T	1/4W 3.9K	R972	ERDS2TJ472T	1/4W 4.7K	C57, 58	ECQB1H333JZ3	50V 0.033U
R909	ERDS2TJ272T	1/4W 2.7K	R972A	ERDS2TJ183T	1/4W 18K	C59, 60	ECQB1H223JZ3	50V 0.022U
R910	ERDS2TJ333T	1/4W 33K	R973	ERDS2TJ682T	1/4W 6.8K	C201	ECUV1E153MB	25V 0.015U
R911, 912	ERDS2TJ103T	1/4W 10K	R973A	ERDS2TJ271T	1/4W 270	C202	ECUV1E104KB	25V 0.1U
R914	ERDS2TJ221T	1/4W 220	R974	ERDS2TJ123T	1/4W 12K	C203, 204	ECEV1CA100R	16V 10U
R915	ERDS2TJ103T	1/4W 10K	R974A	ERDS2TJ183T	1/4W 18K	C205, 206	ECUV1E104KB	25V 0.1U
R916	ERDS2TJ332T	1/4W 3.3K	R975	ERDS2TJ223T	1/4W 22K	C209-211	ECEV1EN4R7R	25V 4.7U
R917, 918	ERDS2TJ103T	1/4W 10K	R977	ERDS2TJ223T	1/4W 22K	C212-214	ECUV1H103ZFN	50V 0.01U
R919, 920	ERDS2TJ223T	1/4W 22K	R978	ERDS2TJ473T	1/4W 47K	C215	ECUV1H472KB	50V 4700P
R922	ERDS2TJ472T	1/4W 4.7K	R979	ERDS2TJ102T	1/4W 1K	C216	ECUV1E562KBN	25V 5600P
R923	ERDS2TJ152T	1/4W 1.5K	R980	ERDS2TJ472T	1/4W 4.7K	C217-219	ECUV1E104KB	25V 0.1U
R924	ERDS2TJ223T	1/4W 22K $\Delta$	R981	ERDS2TJ392T	1/4W 3.9K	C301	ECQP1153JZ	50V 0.015U
R925	ERDS2TJ821T	1/4W 820	R983	ERDS2TJ222T	1/4W 2.2K	C302	ECEA1EK4R7B	25V 4.7U
R926	ERDS2TJ223T	1/4W 22K $\Delta$	R984	ERDS2TJ472T	1/4W 4.7K (EB)	C303	ECKD1H392KB	50V 3900P
R927	ERDS2TJ821T	1/4W 820	R985	ERDS2TJ102T	1/4W 1K $\Delta$	C304, 305	ECKR1H222KB5	50V 2200P
R928	ERG1SJ150E	1W 15 $\Delta$	R986	ERDS2TJ472T	1/4W 4.7K	C306	ECKD1H682KB	50V 6800P
R929	ERG1SJ180E	1W 18 $\Delta$	R987	ERDS2TJ223T	1/4W 22K	C310	ECKR1H103ZF5	50V 0.01U (EB)
R930	ERDS2TJ223T	1/4W 22K $\Delta$	R988, 989	ERDS2TJ103T	1/4W 10K	C310	ECKD1H472KB	50V 4700P (P, PC, E, E5, EG)
R931	ERDS2TJ821T	1/4W 820	R990	ERDS2TJ472T	1/4W 4.7K			
R932	ERDS2TJ103T	1/4W 10K (P, PC, E, E5, EG)	R992, 993	ERDS2TJ822T	1/4W 8.2K	C311	ECEA1AU101B	10V 100U
			R994, 995	ERDS2TJ473T	1/4W 47K	C312	ECBT1E103ZF	25V 0.01U
R933	ERDS2TJ332T	1/4W 3.3K	R998	ERDS2TJ103T	1/4W 10K	C313, 314	ECQV1H224JZ3	50V 0.22U
R934	ERDS2TJ472T	1/4W 4.7K (EB)	R999	ERD2FCVG330T	1/4W 33 (EB) $\Delta$	C315, 316	ECBT1H821KB5	50V 820P
R935	ERDS2TJ682T	1/4W 6.8K	R999	ERDS1FVJ330T	1/2W 33 (P, PC, E, E5, EG) $\Delta$	C317, 318	ECBT1H121KB5	50V 120P
R936	ERDS2TJ223T	1/4W 22K				C319, 320	ECQV1H563JZ3	50V 0.056U
R938	ERDS2TJ682T	1/4W 6.8K				C321, 322	ECQB1H223JZ3	50V 0.022U
R939	ERDS2TJ223T	1/4W 22K			CAPACITORS	C323, 324	ECQB1H103JZ3	50V 0.01U
R940, 941	ERDS2TJ562T	1/4W 5.6K				C325, 326	ECKR1H561KB5	50V 560P
R942	ERDS2TJ821T	1/4W 820	C7, 8	ECBT1H221KBY	50V 220P	C328	ECBT1H470J5	50V 47P
R943	ERDS2TJ223T	1/4W 22K	C9, 10	ECEA0JPX471B	6.3V 470U	C329	ECEA1EK100B	25V 10U
R944, 945	ERDS1FVJ120T	1/2W 12	C11, 12	ECQB1H562JZ3	50V 5600P	C330	ECBT1E103ZF	25V 0.01U

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
C331	ECBT1E103ZF	25V 0.01U (EB)	C457, 458	ECQB1H103JZ3	50V 0.01U	C626	ECKR1H103ZF5	50V 0.01U
C332	ECBT1E103ZF	25V 0.01U	C461, 462	ECEA1HPX4R7B	50V 4.7U	C627	ECBT1E103ZF	25V 0.01U $\Delta$
C333	ECBT1H470J5	50V 47P	C551, 552	ECQV1H104JZ3	50V 0.1U	C628, 629	ECEA1HPS010	50V 1U
C403, 404	ECEA1CPX100B	16V 10U	C553, 554	ECEA0JXS101B	6.3V 100U	C701	ECKR1H223ZF5	50V 0.022U
C409, 410	ECQB1H472JZ3	50V 4700P	C555	ECBT1E103ZF	25V 0.01U	C702, 703	ECKR1H103ZF5	50V 0.01U
C411, 412	ECEA1CPX100B	16V 10U	C556	ECEA1CK100B	16V 10U	C901	ECEA0JU222B	6.3V 2200U
C413, 414	ECQV1H473JZ3	50V 0.047U	C557	ECEA1EK4R7B	25V 4.7U	C902	ECKR1H103ZF5	50V 0.01U
C415, 416	ECQV1H224JZ3	50V 0.22U	C558	ECEA1HK010B	50V 1U	C903	ECEA1HK010B	50V 1U
C417-420	ECEA1HKR68B	50V 0.68U	C559-561	ECBT1E103ZF	25V 0.01U	C904	ECEA1EK4R7B	25V 4.7U
C421, 422	ECQV1H224JZ3	50V 0.22U	C563, 564	ECEA0JXS101B	6.3V 100U	C905	ECKR1H103ZF5	50V 0.01U
C423, 424	ECQV1H473JZ3	50V 0.047U	C567, 568	ECEA1VK100B	35V 10U	C906	ECEA1CN100SB	16V 10U
C425, 426	ECEA1CPX100B	16V 10U	C601	ECKD2H682PE	500V 6800P $\Delta$	C908	ECKR1H103ZF5	50V 0.01U
C427, 428	ECQB1H472JZ3	50V 4700P	C602	ECEA1EU222E	25V 2200U	C909	ECQB1H822JZ3	50V 8200P
C429, 430	ECQB1H103JZ3	50V 0.01U	C603	ECEA1EU222E	25V 2200U $\Delta$	C910	ECEA1CK100B	16V 10U
C433, 434	ECKD1H122KB	50V 1200P	C604, 605	ECKR1H103ZF5	50V 0.01U	C911	ECBT1H470J5	50V 47P
C435, 436	ECKD1H152KB	50V 1500P	C606, 607	ECEA1AU221B	10V 220U	C912	ECEA1HK010B	50V 1U
C437, 438	ECQB1H472JZ3	50V 4700P	C608, 609	ECKR1H103ZF5	50V 0.01U	C914	ECEA1CK100B	16V 10U
C439, 440	ECEA1CPX100B	16V 10U	C610, 611	ECEA1AU102B	10V 1000U	C915	ECEA0JU101B	6.3V 100U
C441, 442	ECQV1H473JZ3	50V 0.047U	C612	ECEA1EU222E	25V 2200U $\Delta$	C916	ECEA1CN100SB	16V 10U
C443, 444	ECQV1H224JZ3	50V 0.22U	C613	ECKR1H103ZF5	50V 0.01U	C917	ECEA1HK010B	50V 1U (EB)
C445-448	ECEA1HKR68B	50V 0.68U	C615	ECEA1EK100B	25V 10U	C918, 919	ECBT1E103ZF	25V 0.01U
C449, 450	ECQV1H224JZ3	50V 0.22U	C617	ECEA1HU221B	50V 220U	C920	ECEA1HKR47B	50V 0.47U
C451, 452	ECQV1H473JZ3	50V 0.047U	C618-621	ECEA1AU102B	10V 1000U	C921	ECEA1EK100B	25V 10U
C453, 454	ECEA1CPX100B	16V 10U	C623	ECBT1E103ZF	25V 0.01U			
C455, 456	ECQB1H472JZ3	50V 4700P	C624	ECKD2H682PE	500V 6800P			

## ■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 NO 1	<table><tr><td>MC14066BCP</td><td>14 Pin</td></tr><tr><td>UPC1297CA</td><td>18 Pin</td></tr><tr><td>TEA0665</td><td>28 Pin</td></tr><tr><td>AN7351K</td><td>42 Pin</td></tr><tr><td>HD404302SA07</td><td>42 Pin</td></tr><tr><td>MB88511-224N</td><td>42 Pin</td></tr></table>	MC14066BCP	14 Pin	UPC1297CA	18 Pin	TEA0665	28 Pin	AN7351K	42 Pin	HD404302SA07	42 Pin	MB88511-224N	42 Pin	 NO 1	<table><tr><td>HA13440MPEL</td><td>30 Pin</td></tr></table>	HA13440MPEL	30 Pin	 NO 1	<table><tr><td>M5218L</td><td>8 Pin</td></tr><tr><td>BA6218</td><td>9 Pin</td></tr></table>	M5218L	8 Pin	BA6218	9 Pin	<b>2SJ164PQRTA</b> 
MC14066BCP	14 Pin																							
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BA6218	9 Pin																							
 E C B	<b>2SB621ARSTA</b> <b>2SD592A</b>	 E C B	<b>2SA1309AQSTA</b> <b>2SC3311AQSTA</b> <b>2SD1450RSTTA</b> <b>2SB1030RSTTA</b>	 E C B	<b>DTC114ESTP</b> <b>DTC114YSTP</b> 	 E C B	<b>DTA114ESTP</b> 																	
 B C E	<b>2SB1357DEFTA</b> <b>2SD2037EFTA</b>	 A K	<b>MA165TA</b> <b>1SR35200TB</b> <b>1SS133</b> 	 A K	<b>MA4051MTA</b> <b>MA4056H</b> <b>MA4062HTA</b> <b>MA4075MTA</b> <b>MA4082MTA</b> 	<b>MA4091MTA</b> <b>MA4120M</b> <b>MA4200M</b> <b>MA4220</b> <b>MA4330MTA</b>																		
 C B E	<b>2SD601RTW</b> 	<table><tr><td>SN74LS04MEL</td><td>14 Pin</td></tr><tr><td>SN74LS74AMEL</td><td>14 Pin</td></tr></table>  NO 1	SN74LS04MEL	14 Pin	SN74LS74AMEL	14 Pin	<table><tr><td>SN74LS04MEL</td><td>14 Pin</td></tr><tr><td>SN74LS74AMEL</td><td>14 Pin</td></tr></table>	SN74LS04MEL	14 Pin	SN74LS74AMEL	14 Pin	 A K	<b>MA3056MTW</b> 	<b>RFKFSB655EAK</b> <b>RFKFSB655EBK</b>  Anode Cathode Ca										
SN74LS04MEL	14 Pin																							
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SN74LS74AMEL	14 Pin																							

## REPLACEMENT PARTS LIST

### Notes : \* Important safety notice:

Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

\* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.) Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS		39	XTB26+4FFZ	SCREW	
1	RKMD036-K	CABINET		40	RSC0076	SHIELD PLATE	
2	RYF0036	CASSETTE LID		41	RGLO030	PANEL LIGHT	
3	RYQ0027	ORNAMENT		42	RKU0009	BOTTOM BOARD	
4	SNE2129-1	SCREW		43	XTB3+10GFZ	SCREW	
5	XTB3+8JFZ1	SCREW		44	XTS3+8J	SCREW	
6	RMN0021	FL HOLDER		45	SHR301	CLAMPER	
7	RSC0048	SHIELD PLATE		46	RNA0146	LOADING ANGLE	
8	RGR0024-H	REAR PANEL	(E)	47	RNA0242	ANGLE	
8	RGR0024-I	REAR PANEL	(E5)	48	RMCO039	BRACKET	
8	RGR0024-J	REAR PANEL	(EB)	49	RME0039	OPEN SPRING	
8	RGR0024-K	REAR PANEL	(P, PC)	50	RML0110	LEAF SWITCH LEVER (B)	
8	RGR0024-O	REAR PANEL	(EG)	51	RML0111	LEAF SWITCH LEVER (C)	
9	RGU0030	BUTTON, POWER		52	RML0112	DRIVE SECTOR LEVER	
10	RGV0022	KNOB, TIMER		53	RML0113	LEAF SWITCH LEVER (A)	
11	RGW0032	KNOB, BALANCE LEVEL		54	RFKNSB755EDK	LOADING BASE ASS'Y	
12	RGW0033	KNOB, REC LEVEL		55	SFUGF01N02	INTERMEDIATE GEAR	
13	RKAD009-1	FOOT		56	SHDD8	SCREW	
14	RFKNSB755EAK	FRONT GRILLE ASS'Y (1)		57	RFKPSB755E-K	EJECT DRIVE MOTOR ASS'Y	
14-1	RKWD038	TRANSPARENT PLATE		58	SMBD7	BELT	
15	RFKNSB755EBK	FRONT GRILLE ASS'Y (2)		59	XYN26+F6	SCREW	
16	RMCO040	BRACKET		60	RDG0080	DRIVE GEAR	
17	RMCO056	SHIELD PLATE		61	RDG0081	PULLEY GEAR	
18	RMKD026-1	CHASSIS		62	RMQ0072	HALF STABILIZER	
19	RMN0022	ORNAMENT		63	RNA0157	DAMPER ANGLE	
20	RFKGSB755E-K	FRONT PANEL ASS'Y	(E, E5, EB, EG)			PACKING MATERIAL	
20	RFKGSB755P-K	FRONT PANEL ASS'Y	(P, PC)	P1	RPQ0301	CARTON BOX	(PC, E, E5, EB, EG)
21	RGKD117	ORNAMENT, BUTTON (A)		P1	RPQ0302	CARTON BOX	(P)
22	RGKD118	ORNAMENT, BUTTON (B)		P2	RPN0178	PAD, FRONT/BACK	
23	RGU0195	BUTTON, OPEN/CLOSE		P3	SPS5185	PAD, ACCESSORIES	
24	RGU0131	BUTTON, COUNTER		P4	SPP756	PROTECTION COVER	
25	RGU0132	BUTTON, NOISE REDUCTION				ACCESSORIES	
26	RGU0133	BUTTON, OPERATION					
27	RFKNSB755ECK	CASSETTE HOLDER ASS'Y		A1	RQT0224-P	INSTRUCTION MANUAL	(P)
28	RGU0194	BUTTON, MONITOR		A1	RFKSSB755PC	INSTRUCTION MANUAL	(PC)
29	RME0049	SPRING		A1	RQT0226-D	INSTRUCTION MANUAL	(EG)
30	RMRO185	LEVER, OPEN/CLOSE		A1	RQT0227-B	INSTRUCTION MANUAL	(EB)
31	SMQX911-KE	DAMPER GEAR ASS'Y		A1	RFKSSB755E	INSTRUCTION MANUAL	(E, E5)
32	XTB3+10JFZ	SCREW		A2	SFDAC05ED3	POWER CORD	(E, E5, EG) $\Delta$
33	SUD444-1	WASHER		A2	SJA172	POWER CORD	(PC) $\Delta$
34	SHE187-2	HOLDER		A2	SJA172-1	POWER CORD	(P) $\Delta$
35	SNE4021-1	NUT		A2	SJA193-1	POWER CORD	(EB) $\Delta$
36	XTB3+16G	SCREW		A3	SJP2249-3	STEREO CONNECTION CABLE	
37	XTB3+20J	SCREW					
38	XTB3+8JFZ	SCREW					

## RESISTORS & CAPACITORS

Notes : \* Capacity value are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)  
 \* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k (OHM)

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS	R307	ERDS2TJ222T	1/4W 2.2K	R601, 602	ERDS2TJ472T	1/4W 4.7K
			R308	ERDS2TJ682T	1/4W 6.8K	R603	ERDS2TJ103T	1/4W 10K
			R311, 312	ERDS2TJ100T	1/4W 10	R604	ERDS2TJ472T	1/4W 4.7K $\Delta$
R9, 10	ERDS2TJ683T	1/4W 68K	R313, 314	ERDS2TJ154T	1/4W 150K	R605	ERD2FCVJ6R8T	1/4W 6.8 (EB) $\Delta$
R11, 12	ERDS2TJ183T	1/4W 18K	R315, 316	ERDS2TJ333T	1/4W 33K	R605	ERDS1FVJ150T	1/2W 15 (P, PC, E, E5, EG) $\Delta$
R13, 14	ERDS2TJ101T	1/4W 100	R317	ERDS2TJ822T	1/4W 8.2K			
R15, 16	ERDS2TJ220T	1/4W 22	R318	ERDS2TJ272T	1/4W 2.7K	R606	ERD2FCVJ4R7T	1/4W 4.7 (EB)
R17, 18	ERDS2TJ153T	1/4W 15K	R319	ERDS2TJ102T	1/4W 1K	R606	ERDS1FJ4R7	1/2W 4.7 (P, PC, E, E5, EG)
R19, 20	ERDS2TJ103T	1/4W 10K	R320	ERDS2TJ332T	1/4W 3.3K			
R21, 22	ERDS2TJ564T	1/4W 560K	R321	ERDS1FJ390	1/2W 39 (EB)	R607, 608	ERDS2TJ561T	1/4W 560
R23, 24	ERDS2TJ682T	1/4W 6.8K	R321	ERDS1FVJ121T	1/2W 120 (P, PC, E, E5, EG)	R611, 612	ERD2FCVG270T	1/4W 27 (EB)
R25, 26	ERDS2TJ273T	1/4W 27K				R611, 612	ERDS1FVJ270T	1/2W 27 (P, PC, E, E5, EG)
R27, 28	ERDS2TJ153T	1/4W 15K	R322, 323	ERDS1FJ390	1/2W 39 (EB)			
R29, 30	ERDS2TJ682T	1/4W 6.8K	R324	ERDS2TJ102T	1/4W 1K	R613, 614	ERDS2TJ222T	1/4W 2.2K
R31, 32	ERDS2TJ392T	1/4W 3.9K	R325	ERDS2TJ222T	1/4W 2.2K	R615	ERDS2TJ1R0T	1/4W 1.0 $\Delta$
R33, 34	ERDS2TJ102T	1/4W 1K	R405, 406	ERDS2TJ473T	1/4W 47K	R616	ERDS2TJ391T	1/4W 390 $\Delta$
R35, 36	ERDS2TJ820T	1/4W 82	R415, 416	ERDS2TJ102T	1/4W 1K	R617, 618	ERDS2TJ151T	1/4W 150 (EB)
R37, 38	ERDS2TJ102T	1/4W 1K	R417, 418	ERDS2TJ332T	1/4W 3.3K	R617, 618	ERDS2TJ820T	1/4W 82 (P, PC, E, E5, EG)
R39, 40	ERDS2TJ151T	1/4W 150	R419, 420	ERDS2TJ333T	1/4W 33K			
R41, 42	ERDS2TJ332T	1/4W 3.3K	R421-424	ERDS2TJ823T	1/4W 82K	R619, 620	ERQ16NKR15E	1/6W 0.15 (EB) $\Delta$
R43, 44	ERDS2TJ392T	1/4W 3.9K	R425, 426	ERDS2TJ683T	1/4W 68K	R623, 624	ERDS2TJ101T	1/4W 100 (EB)
R45, 46	ERDS2TJ472T	1/4W 4.7K	R427, 428	ERDS2TJ222T	1/4W 2.2K	R625	ERDS2TJ181T	1/4W 180 (EB)
R47, 48	ERDS2TJ222T	1/4W 2.2K	R429, 430	ERDS2TJ512	1/4W 5.1K	R626, 627	ERDS2TJ101T	1/4W 100 (EB)
R49, 50	ERDS2TJ104T	1/4W 100K	R435, 436	ERDS2TJ473T	1/4W 47K	R628	ERDS2TJ103T	1/4W 10K
R51-56	ERDS2TJ223T	1/4W 22K	R437, 438	ERDS2TJ242	1/4W 2.4K	R629	ERDS2TJ472T	1/4W 4.7K
R59, 60	ERDS2TJ182T	1/4W 1.8K	R439-442	ERDS2TJ684T	1/4W 680K	R630, 631	ERDS2TJ151T	1/4W 150 (EB)
R61, 62	ERDS2TJ222T	1/4W 2.2K	R443, 444	ERDS2TJ562T	1/4W 5.6K	R630, 631	ERDS2TJ820T	1/4W 82 (P, PC, E, E5, EG)
R63, 64	ERDS2TJ332T	1/4W 3.3K	R445, 446	ERDS2TJ102T	1/4W 1K			
R67, 68	ERDS2TJ273T	1/4W 27K	R447, 448	ERDS2TJ332T	1/4W 3.3K	R632, 633	ERDS2TJ121T	1/4W 120
R69, 70	ERDS2TJ472T	1/4W 4.7K	R449, 450	ERDS2TJ333T	1/4W 33K	R635-638	ERDS2TJ181T	1/4W 180 (EB)
R71, 72	ERDS2TJ561T	1/4W 560	R451-454	ERDS2TJ823T	1/4W 82K	R639	ERD2FCVG100T	1/4W 10 (EB)
R73-76	ERDS2TJ103T	1/4W 10K	R455, 456	ERDS2TJ683T	1/4W 68K	R640	ERD2FCVJ6R8T	1/4W 6.8 (EB) $\Delta$
R77, 78	ERDS2TJ331	1/4W 330	R457, 458	ERDS2TJ222T	1/4W 2.2K	R641	ERDS2TJ391T	1/4W 390
R79, 80	ERDS2TJ182T	1/4W 1.8K	R459, 460	ERDS2TJ512	1/4W 5.1K	R642	ERDS2TJ391T	1/4W 390 $\Delta$
R201	ERJ6GEYJ333V	1/10W 33K	R551, 552	ERDS2TJ104T	1/4W 100K	R701	ERDS2TJ821T	1/4W 820
R202	ERJ6GEYJ683V	1/10W 68K	R553, 554	ERDS2TJ563T	1/4W 56K	R702	ERDS2TJ102T	1/4W 1K
R203-205	ERJ6GEYJ1R5V	1/10W 1.5	R555, 556	ERDS2TJ823T	1/4W 82K	R703	ERDS2TJ122T	1/4W 1.2K
R206	ERJ8GEYJ222V	1/8W 2.2K	R557, 558	ERDS2TJ220T	1/4W 22	R704	ERDS2TJ152T	1/4W 1.5K
R207	ERJ6GEYJ182V	1/10W 1.8K	R559, 560	ERDS2TJ152T	1/4W 1.5K	R705	ERDS2TJ182T	1/4W 1.8K
R208	ERJ6GEYJ222V	1/10W 2.2K	R561	ERDS2TJ102T	1/4W 1K	R706	ERDS2TJ222T	1/4W 2.2K
R209-211	ERJ6GEYJ4R7V	1/10W 4.7	R562	ERDS2TJ471T	1/4W 470	R707	ERDS2TJ332T	1/4W 3.3K
R212, 213	ERJ6GEYJ152V	1/10W 1.5K	R563, 564	ERDS2TJ103T	1/4W 10K	R708	ERDS2TJ472T	1/4W 4.7K
R214	ERJ6GEYJ822V	1/10W 8.2K	R565	ERDS2TJ105T	1/4W 1M	R709	ERDS2TJ682T	1/4W 6.8K
R215	ERJ6GEYJ101V	1/10W 100	R569, 570	ERDS2TJ101T	1/4W 100	R710	ERDS2TJ123T	1/4W 12K
R216	ERJ8GEYJ222V	1/8W 2.2K	R571	ERDS2TJ152T	1/4W 1.5K	R711	ERDS2TJ223T	1/4W 22K
R301	ERDS2TJ1R0T	1/4W 1.0	R572	ERDS2TJ102T	1/4W 1K	R712	ERDS2TJ821T	1/4W 820
R302, 303	ERDS2TJ183T	1/4W 18K	R573	ERDS2TJ270T	1/4W 27	R713	ERDS2TJ102T	1/4W 1K
R304, 305	ERDS2TJ100T	1/4W 10	R574	ERDS2TJ220T	1/4W 22	R714	ERDS2TJ122T	1/4W 1.2K
R306	ERDS2TJ471T	1/4W 470	R575-578	ERDS2TJ331	1/4W 330	R715	ERDS2TJ152T	1/4W 1.5K

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
D903-909	MA165TA	DIODE		S702	EVQQTG05R	SW, F. F.	
D910	MA4051M	DIODE		S703	EVQQTG05R	SW, REW	
D911, 912	MA165TA	DIODE		S704	EVQQTG05R	SW, PLAY	
D913	MA4056H	DIODE		S705	EVQQTG05R	SW, REC	
D914	MA4091MTA	DIODE		S706	EVQQTG05R	SW, PAUSE	
D915, 916	MA165TA	DIODE	△	S707	EVQQTG05R	SW, DOLBY NR C	
D920, 921	MA165TA	DIODE		S708	EVQQTG05R	SW, DOLBY NR B	
D924	MA165TA	DIODE		S709	EVQQTG05R	SW, MPX	
D925	MA4075MTA	DIODE		S710	SSS166	SW, TIMER	
D927	MA4082MTA	DIODE		S711	EVQQTG05R	SW, COUNTER (RESET)	
D971, 972	1SS133	DIODE		S712	EVQQTG05R	SW, COUNTER (MODE)	
				S713	EVQQTG05R	SW, METER RANGE	
		VARIABLE RESISTOR(S)		S714	EVQQTG05R	SW, MEMORY (REPEAT)	
				S715	EVQQTG05R	SW, MEMORY (STOP)	
VR1	EWGU2A029A54	V. R. REC. LEVEL CONTROL		S716	EVQQTG05R	SW, APRS	
VR2	EVJ02SF06G15	V. R. BALANCE CONTROL		S717	EVQQTG05R	SW, ARM	
VR3, 4	EVNDXAA00B53	V. R. PLAYBACK GAIN ADJ.		S718	SSH1238	SW, POWER	
VR5, 6	EVNDXAA00B14	V. R. OVERALL GAIN ADJ.		S719	EVQQTG05R	SW, OPEN/CLOSE	
VR7, 8	EVJ02KF04B24	V. R. REC. CALIBRATION		S801	SSPD18	SW, MOTOR	
VR301, 302	EVNDXAA00B14	V. R. OVERALL FREQ. ADJ.		S802	SSPD18	SW, OPEN	
VR303	EVJ02VF04B53	V. R. BIAS CURRENT ADJ.		S971	RSH1A89Z	SW, MODE	
VR701	EVU57AD43A14	V. R. HEADPHONES CONTROL		S972	RSH1A90Z	SW, HALF	
				S973	RSH1A90Z	SW, ATS	
		COIL(S)		S975	RSH1A90Z	SW, REC	
				S976	RSH1A90Z	SW, ATS	
L1, 2	RLZ0003	COIL				CONNECTOR(S) AND SOCKET(S)	
L3-6	SLQX272-1YT	COIL					
L301	SL09B4-K	COIL		CN3	SJSD1105	CONNECTOR (11P)	
L302, 303	SL09B1-K	COIL		CN4	RJS1A1703	CONNECTOR (3P)	
L403, 404	SLM1B8-K	COIL		CN5	RJU003K010M	SOCKET (10P)	
L405, 406	QLM9Z10K	COIL		CN6A, 6B	RJS1A1705	CONNECTOR (5P)	
L407, 408	SLM1B8-K	COIL		CN7-9	RJU003K010M	SOCKET (10P)	
				CN10	SJT30545JQ	CONNECTOR (5P)	
		TRANSFORMER(S)		CN10A	RJS1A1705	CONNECTOR (5P)	
				CN11	SJT30345JQ	CONNECTOR (3P)	
T601	RTP1K4B007-V	POWER TRANSFORMER	(EB) △	CN201	RJS1A1703	CONNECTOR (3P)	
T601	RTP1K4E008-V	POWER TRANSFORMER	(E, E5, EG) △	CN201A	RJS2T4ZA	CONNECTOR (2P)	
T601	RTP1K4C004-V	POWER TRANSFORMER	(P, PC) △	CN601, 602	RJS1A1101	SOCKET (1P)	
				CN607-612	RJS1A1101	SOCKET (1P)	
		OSCILLATOR(S)		CP1	SJTD313	CONNECTOR (3P)	
				CP2	SJTD513	CONNECTOR (5P)	
X551	EF0GC4004T4	CERAMIC FILTER		CP5	RJT003K010	CONNECTOR (10P)	
X901	EF0GC6004T4	CERAMIC FILTER		CP7-9	RJT003K010	CONNECTOR (10P)	
				CP10	SJS50578JQ	SOCKET (5P)	
		DISPLAY TUBE		CP11	SJS50378JQ	SOCKET (3P)	
FL551	RSL0032-F	DISPLAY TUBE				GND PART(S)	
		SWITCH(ES)					
				E1, 2	SNE1004-1	GND PLATE	
S551	EVQQTG05R	SW, MONITOR		E3	SUSD165	GND SPRING	
S701	EVQQTG05R	SW, STOP					

Ref. No.	Part No.	Part Name & Description	Remarks
		JACK(S)	
JK1	SJF3069N	TERMINAL BOARD	
JK2	SJJD19	JACK, HEADPHONES	
JK6	SJS9236	AC INLET	(E, E5, EB, EG) Δ
JK6	SJSD16	AC INLET	(P, PC) Δ
		CERAMIC FILTER(S)	
CF201	RSXA3M74SD1	CERAMIC FILTER	

Ref. No.	Part No.	Part Name & Description	Remarks
		JAMPER(S)	
J201-206	ERJ6GEY0R00V	CHIP JAMPER	

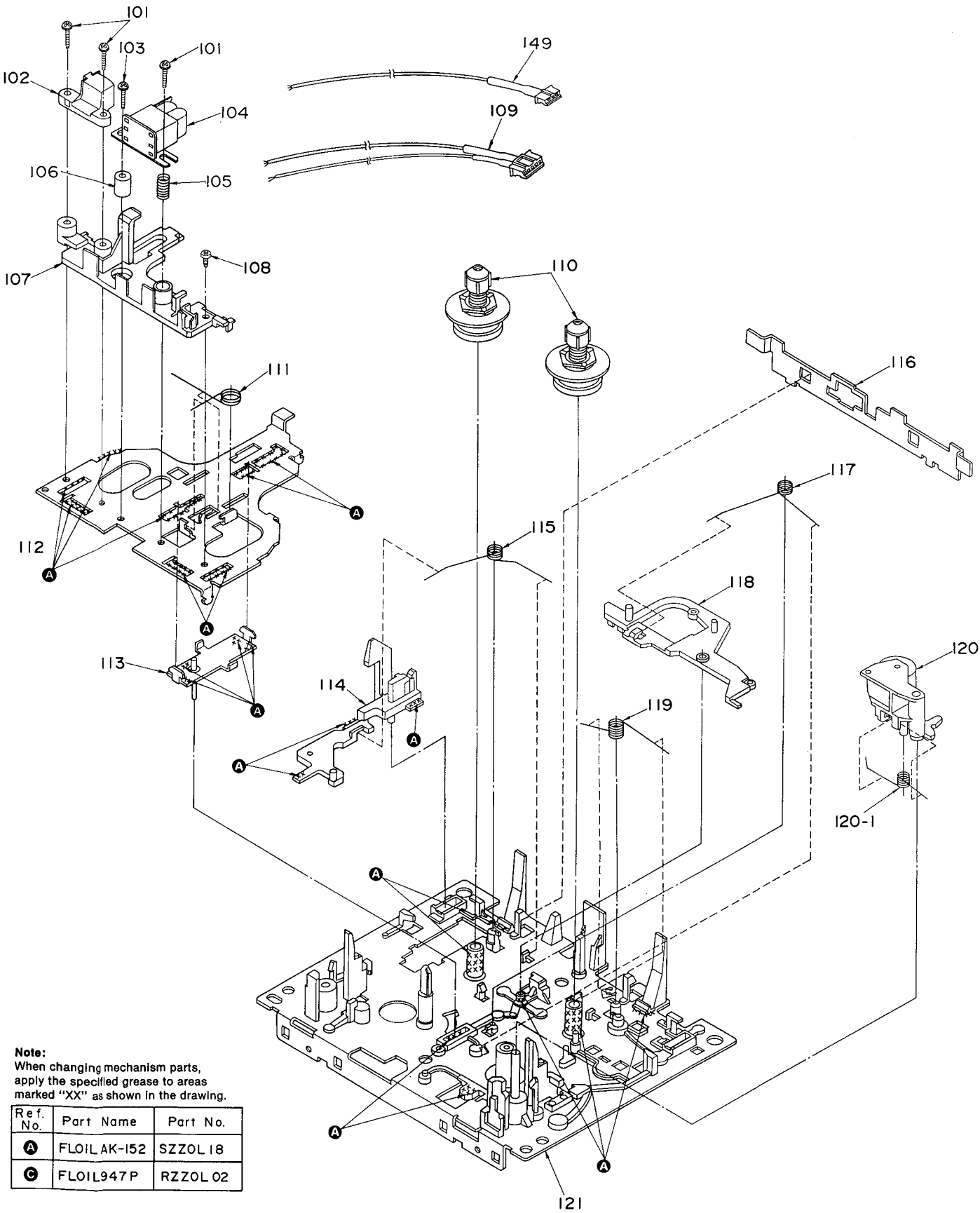
## REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST	
101	QH1361A	SCREW	
102	SJH96-1	E HEAD	
103	RHE52012A	SCREW	
104	RBR4CY003-C	R/P HEAD	
105	QBC1278A	SPRING	
106	RMD0014	SPACER	
107	RMR0184	HEAD SPACER	
108	XTN2+5F	SCREW	
109	REX0092	LEAD WIRE BLOCK	
110	RXR0001	REEL TABLE	
111	RJW1392A	SPRING	
112	RMA0047A	HEAD BASE	
113	RXQ0078	MAIN ROD ASS'Y	
114	RMD012-2	EJECT ROD(L)	
115	RME0018-1	SPRING	
116	RJB502Z	LEVER	
117	RME0020	SPRING	
118	RXL0007	BRAKE LEVER	
119	RJW142ZA	SPRING	
120	RXP0004	PINCH ROLLER ARM	
120-1	RJW1402B	SPRING	
121	RFRKRSB555E-K	CHASSIS ASS'Y	
122	XTN26+7J	SCREW	
123	MMN-6F4RA88	REEL MOTOR	
124	XTN26+26F	SCREW	
125	RMA0048A	FLYWHEEL PLATE	
126	XTN2+3F	SCREW	
127	XSN26+3	SCREW	
128	RMR0141	THRUST BEARING	
129	RXG0009	GEAR ASS'Y	
130	RDG0034	REEL MOTOR GEAR	
131	RJB428Z	MOVING IRON CORE	
132	RSJ0003	SOLENOID	
133	RXQ0011	BRAKE SOLENOID	

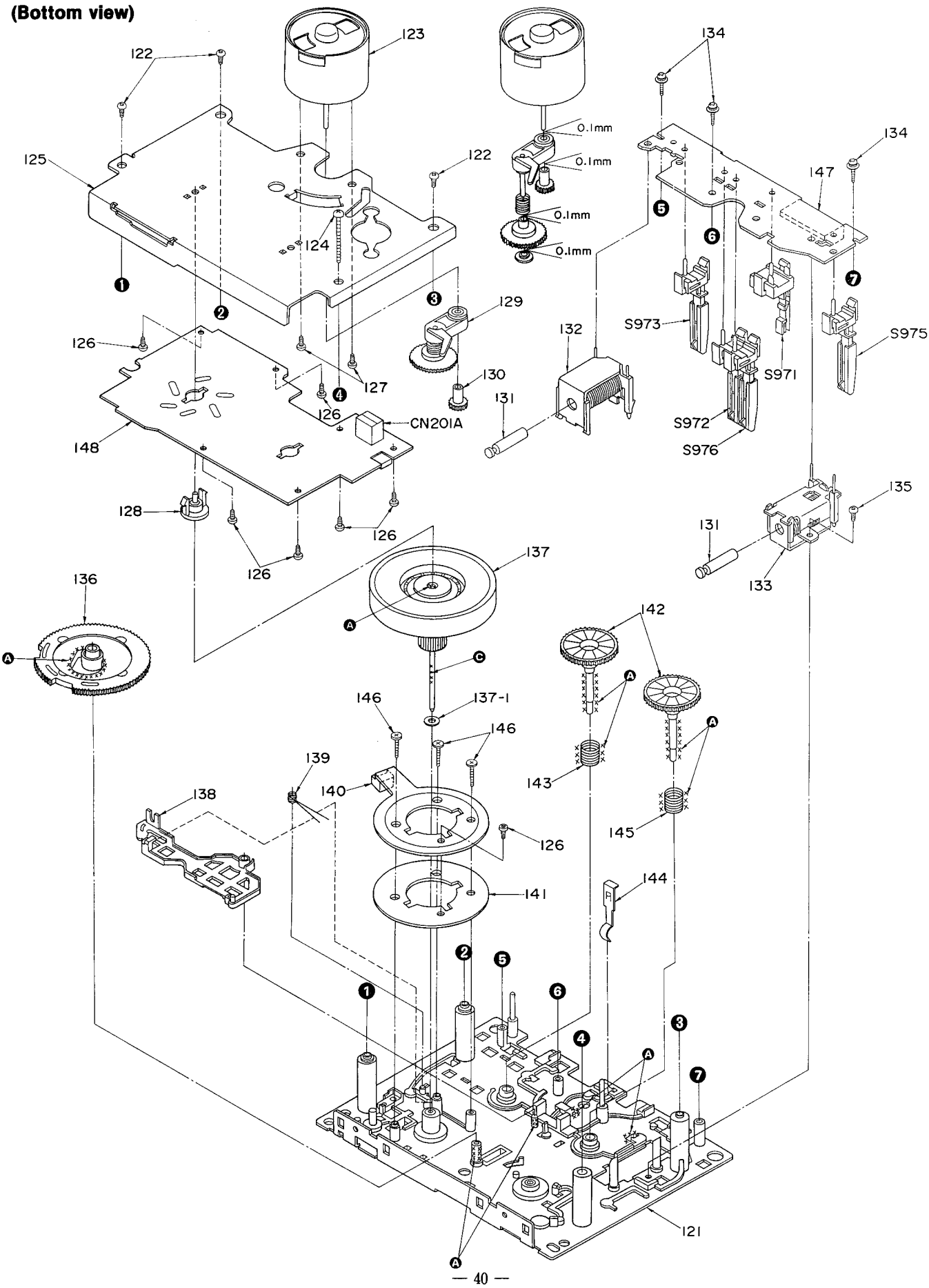
Ref. No.	Part No.	Part Name & Description	Remarks
134	XTW2+8S	SCREW	
135	XTN26+4F	SCREW	
136	RDG0030	MAIN GEAR	
137	RXF0008	FLYWHEEL	
137-1	RNW1392A	WASHER	
138	RML0037	LEVER	
139	RJW1472A	SPRING	
140	RJS2T77ZA	CONNECTOR(2P)	
141	RMQ0037	FG YOKE	
142	RXG0003	REEL TABLE GEAR	
143	RJQ112ZA	SPRING	
144	RJS609Z	TAPE PRESSURE SPRING	
145	RJQ1112ZA	SPRING	
146	RHE52042A	SCREW	
147	RJS11T77ZA	CONNECTOR(11P)	
148	REP0268A	STATOR P.C.B. ASS'Y	
149	REX0093	LEAD WIRE BLOCK	

EXPLODED VIEWS

• Mechanical parts  
(Top view)



(Bottom view)



## • Cabinet parts

